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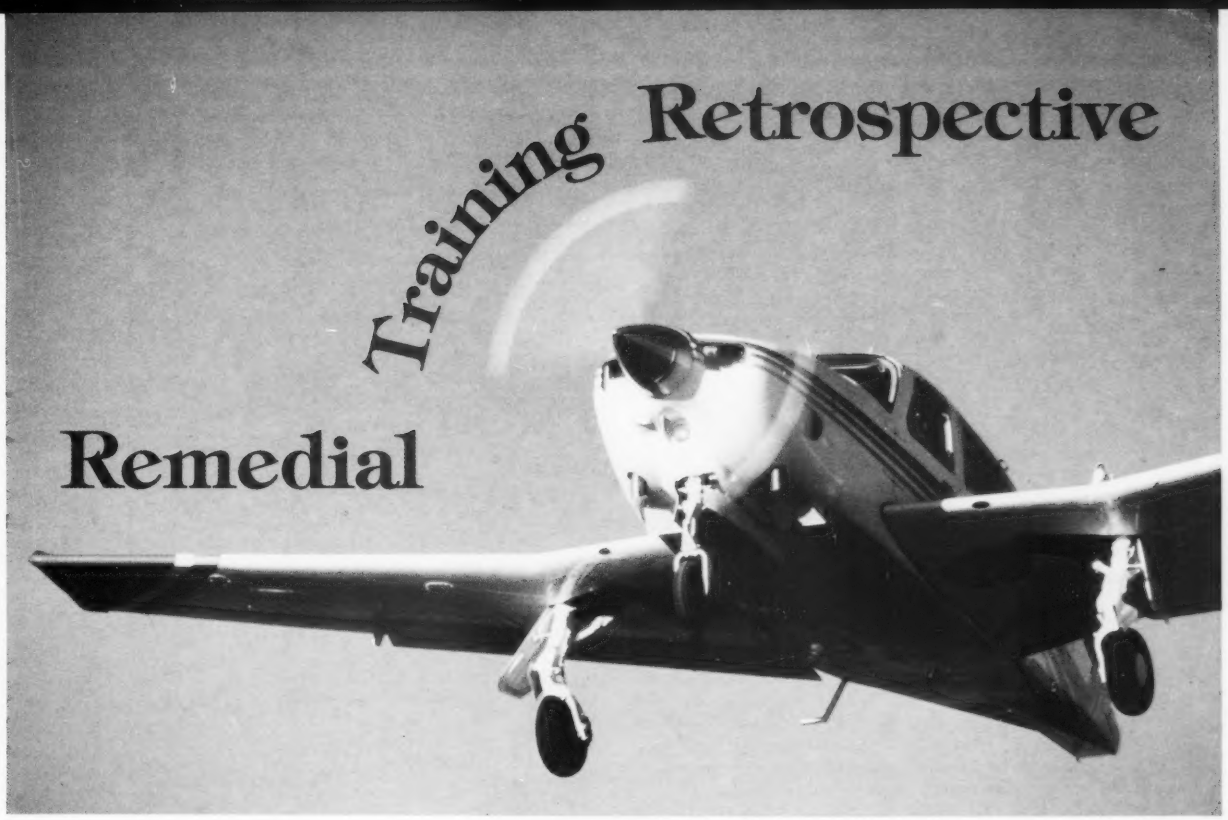
On the cover:
Helicopters play an important role in the oil industry. From exploration to transporting workers and supplies from land to rigs such as this one, helicopters help keep the oil flowing. Photograph courtesy Bell Helicopter Textron, Inc.

The Aviation News Staff welcomes home all the troops returning from Operation Desert Storm, including our own Associate Editor. Our highest regards and deepest sympathies to the families of those who made the ultimate sacrifice.



Remedial Training Retrospective

Phyllis A. Duncan
Editor

A little over a year ago, Administrator James Busey announced a new compliance and enforcement philosophy for the FAA, one based on voluntary compliance through mutual cooperation. One of the cornerstones of this policy for non-commercial aviation was the "Corrective Action Through Remedial Training Program." This was a process emphasizing continuing education rather than punitive enforcement action and a program that allowed FAA inspectors to assess the circumstances surrounding non-compliance with the FAR in determining an appropriate sanction. Basically, if the act of non-compliance was not deliberate, was not the cause of an accident, did not compromise safety, did not indicate a lack of qualification, was not caused by gross negligence, or was not of a criminal nature, the airman could be eligible for a course of training designed specifically to address the incident. Working with Flight Standards District Office (FSDO) inspectors (both the investigating aviation safety inspector and the accident prevention program manager), the airman "went back to school" to learn how not to make the same mistake again. The result: Hopefully, the return of a better airman to the aviation system.

Now, a year later, how is the Remedial Training Program faring? As an official FAA publication, we could tell you that it was a resounding success and let it go at that, but in the interest of objectivity, we would rather let you read it in the words of some of the nearly 400 persons who participated in it. Their comments came with a questionnaire that FAA asked 300 of the participants to complete. We hoped to get honest opinions on how we were doing AND where we needed improvement. Frankly, there were some rough spots in the beginning. FSDO inspectors were not quite sure what cases were eligible; some thought they could ignore it entirely and continue to do business the old way. To ensure each inspector understood the program, FAA conducted a series of training sessions across the country. Literally, every inspector "on the books" received training in the new compliance philosophy and on the workings of Remedial Training. By the end of last summer the program was on track.

We will not bore you with a lot of statistics, but some are very meaningful. To date some 360 enforcement actions have been closed out using remedial training as the recommended corrective action. The number of cases runs from a high of nearly 100 in the Western-Pacific region to a low of five in the New England region. (The figures reflect airman populations, not support, or lack thereof, of the program.) FAR Part 91 was cited more than any other regulation—92% of the total number of regulations cited. Airspace violations led the way—69% of the total non-compliant actions and 75% of the FAR Part 91 citations.

As might be expected, TCA violations (FAR § 91.131) led the way—116 of 290 airspace-related violations. Non-compliance with controlled airport regulations, incursions into restricted or prohibited areas, and Airport Radar Service Area penetrations followed. This can serve as a lesson to the rest of us: As airspace becomes more complex and as we pilots fly more into areas previously not under positive control, it behooves each of us to have a clear understanding of that airspace—its dimensions and the requirements for operating within or around it. Rather than adopting the unconscious attitude, "It won't matter if I penetrate the TCA because I'll get remedial training," pilots should be

thinking along the lines, "I'll learn my airspace so I won't need remedial training."

Of the 300 questionnaires sent to Remedial Training Program participants, 166 returned them to FAA Headquarters, where each Remedial Training letter of correction was also reviewed. To the questionnaire respondents, at least, the Remedial Training Program was overwhelmingly effective; only 1% indicated that the program was ineffective in assuring their future compliance. Respondents were also pleased with the curricula designed for them, the training source the FAA approved, and with FSDO performance overall.

And Accident Prevention Program Managers came up with some unique training alternatives for participants. Mechanics went to brush-up courses at local universities. Some airspace violators not only got some handy dual flight instruction but also a trip to a tower, approach control, or center facility. Other participants went to cockpit resource management and decision-making courses, to industry-sponsored safety clinics and refreshers, or to FAA Accident Prevention Program seminars. One participant learned so well from the prescribed training that he hired a flight instructor for the rest of his flying club so they could learn from his mistake.

But no more numbers, because we did say we would not bore you with them. We have taken the quotations which follow from the actual comments from the questionnaire respondents; the only editing done was to de-identify places and names and to correct grammar and spelling.

One respondent said, "I feel it is much better to teach than to simply punish. This program helps ease the fear/hate relationship between pilots and the FAA. It helps build a better rapport and a good working relationship." This, essentially was one of the reasons for instituting the program, to re-establish lines of communication with airmen. Successful exchange of information is paramount to effective communication, and if airmen would not listen to our safety message because they thought they could not trust us, then *we* had failed.

"I felt very fortunate to be able to participate in this program," said another participant. "It definitely made a positive outcome for both of us. . . . I guess I'm living proof there is a 'kinder, gentler FAA' and I make it a point to tell people this." The "kinder, gentler FAA" was the joke that made the rounds when rumors of this new program first circulated. As the remedial training program went on with successful results, the sarcasm dropped out, and the joke was no longer funny.

> *"I feel it is much better to teach than to simply punish. This program helps ease the fear/hate relationship between pilots and the FAA."*

This respondent summed up the program very well: "I would like to take this opportunity to commend you on the excellent program which you have developed to handle minor infractions. The system was beneficial to me in that I was allowed to concentrate on the areas which caused me to violate the FAR and to ensure that they would not recur. Had my case been handled under the old system, I would have had my certificate suspended and not been required to correct the causes of my violation."

Other respondents talked about remedial training as an eye-opening experience, i.e., they had become dependent on controllers to keep them legal, they had relied on navigation equipment without cross-checking, they had become complacent. With the remedial training program they were able to take a look at their skills and improve them in a positive manner—no need to sit on the sidelines and watch the rest of the world fly while they sat out a suspension.

Lest you think that only novice pilots were the only participants in remedial training, we did have quite a few "gray hairs," relatively speaking, comment. Basically, RT helped them realize that they had flown IFR for so long that their VFR skills had suffered. RT offered them the opportunity to rectify that with benefit to all concerned.

One flight instructor had a very meaningful comment. "As a flight instructor I have given remedial training as well as now having received it myself. . . . With the EGO that we pilots seem to carry with us, a less than positive attitude used to be the norm. . . . The remedial training program now in effect seems to not give that 'being punished' feeling, but a feeling that a genuine effort is being made to educate and assist the pilot, thereby giving us a better, safer system in which to operate. . . . Not only did I benefit from the program, but my present and future students will also. I keep no secrets." Plaudits to an instructor who can put aside the ego and admit to being less than perfect to his or her students. In this case another generation of pilots will keep on learning from this instructor's positive relationship with the FAA.

> *"Participation in remedial training assures that an airman's record will be expunged after two years; a logbook entry lasts a lifetime."*

Probably the most common complaint came from people who felt that, although they had plenty of time to accomplish their training, the overall process took too long—in some cases months after the initial occurrence. There were bugs to iron out and information to disseminate, and future participants in the program will benefit from their predecessors' complaints. We are working on ways to shorten the overall process: sample curricula for the most common occurrences that would need little or no changes, and, perhaps most importantly, communication of the need to process the cases in a timely manner from FAA top management down to the field level.

Several respondents indicated that they regretted having to sign something where they would be admitting some deficiency. The point is not to get hung up on admitting guilt or innocence but rather to avail oneself of an excellent opportunity to improve skills. This shows the inspector an attitude of receptiveness that would lead the inspector to conclude remedial training would be appropriate.

So, is the Remedial Training Program a success? We in the FAA think so, and not just because we have to say that. We sincerely believe it is successful, based on formal and informal data we have collected. The formal data we have gone over, but we have had people call and write unsolicited, people who are not remedial training program participants, to say, "Great program," "Keep it up," "Glad to have a benevolent FAA back." One participant enclosed a $20 check with his questionnaire, hoping to help us offset some of the costs so the program could continue. Before you take out checkbook and pen, we sent it back, but the fact that a participant was so committed to this program enhances our committment, too. Of course, we feel good when we hear good things about RT, not because it feeds our ego but because it means we are pleasing our customers—YOU. That is an attitude we will be slow to lose.

Remedial Training could be around for a long, long time. ■

Editor's note: FSDO's should have copies in the fall of a new advisory circular on the Remedial Training Program. If you have any questions, please contact your local Accident Prevention Program Manager.

A Bell-Boeing V-22 Osprey tilts its rotors during a test flight. The tiltrotor aircraft is being developed for the Department of Defense. Photograph courtesy of Bell Helicopter Textron, Inc.

The Helicopter Industry

Its Two Leading Proponents

"Helicopter professionals fly safely and neighborly!"
(from HAI's Helicopter Users Guide)

by Dean Chamberlain,
Associate Editor

The "teaser" above should tell you that helicopters and the helicopter industry are Part 3 of our series on aviation membership groups, their role in aviation safety, and their working relationship with the FAA. In this segment we will discuss the unique role the helicopter plays in aviation, briefly review its history, and discuss two of the industry's major membership groups — groups that support today's safe helicopter operation and manufacture.

Although we introduced this article with the term "helicopter," some people in the industry prefer the broader term "vertical flight." The reason is many of tomorrow's vertical flight aircraft may not be helicopters. They may be tiltrotors like the Bell-Boeing V-22 *Osprey* or tiltwings like the proposed Japanese *Ishida TW-68*. Both designs combine the vertical flight capabilities of a helicopter with the speed and range of a fixed-wing aircraft. Both manufacturers are striving for a relatively fast, efficient, mid-range (300-500 miles), vertical takeoff and landing commuter aircraft that can carry eight to 75 passengers. Some industry spokespersons say the only thing holding back the development of this type of aircraft is the lack of suitable landing sites, "vertiports," to support commercial operations.

Throughout history mankind has been fascinated with the concept of vertical flight. From the ancient Chinese flying toy tops to Leonardo Da Vinci's helix or lifting airscrew drawings of the 1480's to the first practical U.S. helicopter, the VS-300, built in 1939 by Igor Sikorsky, the concept of vertical flight has been discussed and explored and finally realized. Like fixed-wing flight, practical vertical flight had to wait for the development and evolution of the internal combustion engine before sustained powered flight was possible.

Although the United States flies more civil helicopters than all other countries combined (more than 10,000 of the estimated 16,900 civil helicopters worldwide), the United States was only one of the countries where inventors and engineers experimented with vertical flight. Sikorsky built his first helicopter at his home in Kiev as early as 1909. Then, events in Russia in 1917 prompted his

move to the United States where his name is as important in the history of the helicopter as the name Piper or Cessna is in the history of the airplane.

In the United States the success and development of the helicopter during and after World War II, attributable in part to Sikorsky, was matched by the formation and growth of two of the world's major helicopter support organizations. The American Helicopter Society (AHS) was established by a group of engineers in 1943, and the Helicopter Association International (HAI) was founded by a group of helicopter operators in 1948. Today, both groups continue to provide important safety and other services to the helicopter industry and operators both in the United States and around the world. Both groups work very closely with the FAA and other governmental agencies, federal, state, and local, promoting the safe operation of helicopters and development of the helicopter and vertical flight industry. Although there are many smaller, specialty groups supporting unique uses of the helicopter such as law enforcement, emergency medical support, agricultural spraying, etc., this is the story of the two largest groups, AHS and HAI, and their support of "vertical flight."

American Helicopter Society

As the first group founded, it is appropriate that AHS's contributions and services to the helicopter industry be recognized first. AHS' Executive Director, John F. Zugschwert, describes AHS this way, "AHS is not the typical trade association. It is a technical, professional society representing the designers, developers, and manufacturers of vertical flight machines around the world. We provide a focal point for the exchange of valid information for the vertical flight industry."

Consequently, AHS' membership is a bit different from most aviation membership groups. The emphasis is more on research and development than day-to-day operations. In the United States, AHS is organized into regional groups and an international group for members from outside the U.S. These international members make up about 25 percent of AHS' membership. Currently, AHS has more than 7,000 individual and about 200 corporate members. About 1,000 college and university students from around the world are also members.

With a headquarters staff of only six, AHS serves the vertical flight industry worldwide, Zugschwert said, by being the intermediary for helicopter users and the industry. AHS provides a very fast and direct channel for information between everyone involved in the industry. As problems or needs arise, the people who can make changes are only a phone call away. This access gives industry the ability to incorporate fixes or changes very quickly. This is one way AHS contributes to vertical flight safety through ensuring the free flow of information between the aircraft users and manufacturers.

Zugschwert said, "We address military and civil [vertical flight matters]–it does not matter. The majority of our interest by the industry is more on the military side, but we see a real future in the civil side."

In discussing the Society's working relationship with the FAA and the Administrator, Zugschwert said since his arrival at AHS in 1981, "I think the working relationship has never been better. I am at the FAA at least twice a week." He said AHS works very closely with the various vertical flight groups within FAA. One benefit of AHS' and the other vertical flight organizations' close working relationship with the FAA has been establishment of the FAA's Rotorcraft Office to support the helicopter industry.

AHS offers several safety services and programs to its members, which we will highlight below. For complete details on its various services, please contact AHS at 217 N. Washington Street, Alexandria, VA 22314; (703) 684-6777.

AHS provides its members access to one of the world's largest collections of vertical flight technical information. The collection includes AHS technical publications, FAA information, videotapes, and other material on all aspects of vertical flight. For its members AHS has a 24-hour computer-based information system called the On-Line Bibliographic Retrieval System (OBRS). OBRS gives members access to more than 2,400 vertical flight records. This access and availability allow for the rapid exchange of technical vertical flight information and contributes to aircraft safety through shared knowledge of problems and proposed solutions. According to Zugschwert the vertical flight industry has lead the aviation industry in designing safety into its aircraft. He said the helicopter industry has also lead the aviation industry in the use of composites and other materials that have reduced aircraft weight and increased flight safety. One of the reasons for this leadership has been the free flow of technical information within the industry provided by AHS.

John F. Zugschwert, President of AHS

Members also have access to current technical and safety information through AHS' various publications: the bi-monthly magazine *Vertiflite*, the quarterly *Journal of the American Helicopter Society*, the bi-monthly *Membergram*, and the Annual Forum *Proceedings*, which is a bound collection of technical reports.

The AHS Annual Forum and Technology Display provides AHS members and other industry representatives with the largest technical meeting and aircraft display dedicated to vertical flight. The Forum includes technical and safety presentations to and from industry, owner/operator groups, government, the military, and academia on the latest industry information and developments.

AHS also represents its members' interests to Congress, FAA, NASA, the Department of Defense, other governmental bodies, and the various aviation trade groups and associations. That representation includes being a participant on the FAA's Rotorcraft Task Force (more on this later) and National Airspace Review panel, among others.

In keeping with its technical orientation, AHS supports the future of the vertical flight industry through scholarships and other support programs for students involved in vertical flight studies. AHS

provides annual scholarships for both undergraduate and graduate students studying aeronautical engineering. The scholarships are based upon student academic ability and achievement. The Society has about 1,000 active student members organized into 30 student chapters around the world. AHS also provides backing for a national industry program supporting vertical flight education in both grade schools and high schools, a program which has received FAA recognition.

Helicopter Association International

In contrast to the technological orientation of AHS and its involvement in both civil and military vertical flight development and aircraft manufacture, the Helicopter Association International (HAI) is known as the "voice of the civil operator" and represents primarily the interests of civil helicopter operators. However, HAI's efforts on behalf of the operators have benefitted the entire industry. HAI began its life in 1948 as HAA, the Helicopter Association of America, but as the industry grew and took on a more international flavor, in 1981 HAA became HAI.

HAI has more than 1,100 member organizations, which represent a complete coverage of the entire civil helicopter industry. HAI's Regular (voting) members are some 550 civil organizations that operate helicopters. These include commercial, corporate/private, and public service operations. Collectively, HAI's Regular members operate more than 4,000 helicopters and fly in excess of 2,000,000 hours each year.

HAI's 550 Associate member companies include manufacturers of airframes and engine components and accessories; repair and overhaul companies; brokers, financial firms, and insurance companies; and just about every type of firm that supports the civil helicopter industry.

HAI's emphasis is on the day-to-day needs and operational requirements of its members wherever they may be. Some of these needs and requirements include safety, operational restrictions and requirements, airspace use, operating sites and helipads, FAA regulations, governmental restrictions, and business related questions. All are important areas of concern for HAI, according to its President, Frank L. Jensen, Jr. He described HAI by saying, "We are the people concerned with the real, practical aspects of making helicopters work in today's world. We try to bring about a regulatory environment and an economic environment in which the operators can survive. Our primary interests are in the practical, real-world aspects of helicopter operations."

Like AHS, HAI is an important member of or participant on numerous FAA and governmental committees and panels supporting the civil helicopter industry. HAI works closely with the FAA in all areas of helicopter operations, including pilot certification, commercial and non-commercial operations, airspace use, and proposed rulemaking. HAI also works with the Congress and the Departments of Agriculture, Commerce, Interior, Labor, and State on a regular basis.

According to Jensen, many of HAI's members are "small operators" who operate one to five helicopters. These small operators often lack the resources to represent themselves in the regulatory and legislative arenas of both aviation and small business. HAI provides many cost effective services for these operators. One of the most important services HAI provides them is a tried and proven safety program.

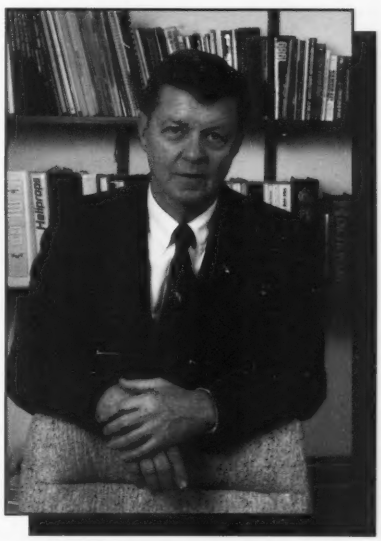
The cornerstone of HAI's safety program is its Safety Committee. According to Jensen, one example of the Committee's work is its help, along with HAI's EMS Committee, in improving the overall safety record of civil helicopters. In 1970 civil helicopters experienced 30+ accidents per 100,000 flight hours. Last year, civil helicopters had an accident rate of only 6 accidents per 100,000 flight hours. Particularly dramatic was the improvement in Emergency Medical Service (EMS) helicopter safety from 1986 to the present. Part of the reason for this turnaround was a special HAI-sponsored seminar on EMS safety in Dallas, TX in January 1987. During the seminar, a blue-ribbon panel was formed to set up safety guidelines for the EMS industry. The panel established guidelines for such items as ceiling and visibility requirements for launching a flight, navigational requirements, crew rest and training requirements, and other safety considerations for EMS operations.

HAI publishes the HAI Safety Manual and other related publications promoting safety. A condition of HAI membership is the requirement for owner/operators to comply with HAI safety guidelines and business ethics.

HAI conducts helicopter safety seminars including those with FAA, local government, and other industry support groups, as part of its ongoing safety information program.

HAI sponsors a number of safety awards as industry and individual incentives. Individual awards are for helicopter pilots with 5,000 10,000, 15,000 and 20,000 accident-free civil flight hours. Another recognizes helicopter maintenance technicians for 5, 10, 15, and 20 years of accident-free service. Finally, there is the HAI Safety Award for the individual contributing the most to improving helicopter safety and an operator safety award for outstanding company safety records.

HAI also promotes safe operations through its various publications and computer services. Regular publications include the quarterly *ROTOR* magazine; *Operations Update and Preliminary Accident Reports*, newsletters published 12 times per year; the Helicopter User Guide; and the *Helicopter Annual*, an award-winning industry reference source on helicopters. HAI also participated in the distribution of *Aeronautical Decision Making for Helicopter Pilots*, a guide prepared under FAA contract for improving helicopter pilot safety. HAI is responsible for a wide range of other publications with information ranging from designing heliports to practical business tips.



Frank L. Jensen, Jr., President of HAI

Courtesy of HAI, © 1990, Ken Heinen

Emergency medical service (EMS) is one of the many uses of helicopters. The military was the first to use them to evacuate wounded troops from battlefields. Since then, civilian EMS helicopters have saved thousands of lives.
Photo courtesy of Bell Helicopter Textron, Inc.

The "Fly Neighborly" voluntary noise reduction program is one of HAI's most popular and effective outreach activities. HAI developed general guidelines and procedures for members who operate in noise-sensitive areas. Because HAI members seek good community relations, they voluntarily adjust their operating altitudes and times to avoid noise-sensitive or congested areas. The program can also be customized for the specific area's characteristics, and it has gone a long way in making the general public more aware of the helicopter's versatility. In 1983 HAI received the FAA's "Award for Distinguished Service" for the "Fly Neighborly" program.

Also, HAI annually conducts Heli-Expo—the world's largest annual event dedicated to the civil helicopter. In addition to an average professional attendence of 10,000 and a static display of 60 helicopters, Heli-Expo offers numerous educational courses to the civil helicopter community.

These are only a few of the safety related services available to HAI members. For more information you can write to HAI, 1619 Duke Street, Alexandria, VA 22314-3439; (703) 683-4646.

Partnership Personified

The helicopter industry contrasts favorably with downward trends in general aviation. Unlike the fixed-wing community, where a new training aircraft has not been designed in several years, the helicopter industry is building several small, training-type helicopters, and they are selling quite well. Helicopter flight training is also on the increase.

The partnership of HAI, AHS, and the FAA is working together to resolve issues affecting the helicopter industry and to ensure a good future for helicopters and vertical flight. Both AHS and HAI are members, along with other industry interests and the FAA, of the Rotorcraft Task Force (ROTAF). ROTAF, established in the late 1970's and chaired by the FAA, meets quarterly to discuss vertical flight issues, new regulatory considerations, and research developments. All members have the opportunity to make presentations, but the free exchange of vital information is its primary purpose and benefit. HAI, AHS, and FAA have formed a partnership whose purpose is to educate the public, especially school children, about helicopters. Bell Helicopter, in cooperation with the State of Texas Department of Education, has produced a training package called "F.L.I.G.H.T." that includes a video on helicopters for use in schools. The package can be modified as needed to support local educational needs. You can contact either AHS or HAI for additional information about the program.

Conclusion

The ancient Chinese used vertical flight for their own amusement. For Da Vinci it was an intellectual exercise. Popular trade magazines of the 1950's promised a personal helicopter in every backyard. Since then, vertical flight has exceeded many of the predictions about it and earned itself a place in aviation's future. That future holds bright promise mainly because of the organized efforts of engineers and designers, pilots and operators, well represented by AHS and HAI. ■

References:

Boyne, Walter J., and Lopez, Donald S., Vertical Flight, the Age of the Helicopter, *Smithsonian Press.*

Epic of Flight Series, The Helicopter, *Time-Life Books.*

1. SEAL DRIVEWAY
2. PAINT HOUSE
3. SOCCER PRACTICE MONDAY
4. BUDGET DUE TO BOSS - ON FRIDAY
5. STACK FIREWOOD
6. SCHOOL BOARD MEETING TONIGHT
7. CLEAN BASEMENT
? GO FLYING!

Have You Seen This List on Your Refrigerator?

by Russell Riendeau

I have seen it, and it is frightening.

The big question is, with all of these items demanding my attention and bidding for shelf space in my mind, will I be in the right frame of mind when I get to the airport? Will I be able to concentrate on the preflight and takeoff and have an enjoyable time? Hmmm . . . maybe.

How can we better prepare ourselves for flying and still maintain our work, family, and social obligations? What can we do to better educate ourselves about ourselves? **Self-awareness** and **attitude** are two key areas.

Self-awareness is the ability to look at oneself honestly and face the "real me" in the mirror. Learning to understand how we respond to the emotions of life, such as anger, stress, frustration, fear, illness, fatigue, family problems, etc., is an area where we need to become better in touch. In understanding how the mind and body react to emotions, we can better prepare ourselves to act rationally rather than emotionally in a serious situation.

Attitude is how you feel about yourself and others. It is your choice how you feel, whether it is happy or sad, positive or negative; it is up to you. A positive attitude is the right attitude in any situation.

In my profession as a sales recruiter, I hear time and time again from clients on why they hired an individual. The main reasons in most cases are that the person had a positive attitude, realistic expectations, and the ability to realize the limitations of their knowledge. These qualities, I feel, apply to the aviator as well. You may be the most skilled pilot in the state, but if you cannot make a proper assessment of a problem, or if you act hastily, it could result in a dangerous situation. Knowing your limitations and expecting a positive outcome in a given situation is the right way to think.

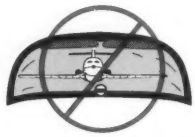
What I have collected over the years is a list of ideas and observations from fellow pilots, business associates, and friends. They are fun ideas that can help us become better pilots *before* we get in the airplane.

Here are 16 activities or ideas you can use to become a safer and more positive pilot on and off the ground:

1) **Exercise regularly.** Keep your energy level at its peak.
2) **Eat sensibly.** Overeating or lack of food can cause drowsiness, cramps, and lack of energy.
3) **Be aware of the atmospheric pressure.** When it is down, reaction and judgement could be affected.
4) **Know how your body reacts** to medication and alcohol (separately, of course).
5) **Attend seminars.** Learn from your fellow pilots.
6) **Practice** your flying skills. Your golf game needs it, and so does your flying.
7) **Take a check ride** before taking up a new (to you) airplane and feel the different sensations, speeds, and sounds.
8) **Go to lunch with an FAA inspector or APPM.** Learn what their work is all about and how they can help you.
9) **Earn your wings** in the Pilot Proficiency Program. Be proud of your skills.
10) **Listen to motivational, educational, and relaxation tapes.** It is a fun and easy way to learn new ideas.
11) **Become involved in a good cause.** Experience the joy of volunteering your time and making a difference.
12) **Arrange a picnic** at your favorite airport.
13) **Take the family or friends** up for a ride; share the excitement.
14) **Make a preflight checklist** for your car to remind you of safety in all areas of your life.
15) **Visit Oshkosh for the fly-in.** Camp out under a wing and the stars for a night.
16) **Hang a windsock on your chimney.** Catch the spirit and surprise your neighbor. ■

Editor's Note: This article originally appeared in the January/February 1991 issue of Illinois Aviation. Mr. Riendeau is a sales recruiter for a firm in Schaumburg, IL, a private pilot active in his local Accident Prevention Program, and a frequent speaker on pilot safety and attitude awareness for FAA-sponsored seminars. Also, we are grateful for his endorsement of the "Wings" program. –Editor

Project Safe Terminal Air Route Training



by Phyllis Duncan
Editor

Anyone who has read John Naisbitt's books *Megatrends* and *Megatrends 2000* knows that trend analysts consider California one of 10 bellwether states. (These are states that lead the nation in initiating social, economic, and political change.) California is a bellwether of new accident prevention programs as well. The prime example of this is FAA Western-Pacific Region's approach to the reduction of a near-mid air collision threat. It is called "Project START."

"START" stands for Safe Terminal Air Route Training. Project START plays on words in a number of ways. It is the start of a new approach in airman education and accident prevention, the start of an unprecedented partnership within and without FAA, and a start toward reducing even further the already declining incidence of near mid-air collisions (NMAC, pronounced "nee-mack" in the vernacular).

Project START got its start in 1989 in the Western-Pacific region when a newly arrived Regional Flight Standards Division Manager, Bill Williams, tasked the newly selected Regional Accident Prevention Program Manager, Ruth Grasel, with creating a regional accident prevention program that addressed all airspace users, not just general aviation pilots. Historically, FAA's Accident Prevention Program has been a partnership of FAA Accident Prevention Program Managers (APPM) and aviation industry volunteers and sponsors whose goal was to improve the safety record of general aviation. This approach seemed logical since general aviation has no formal safety programs or requirements for recurrent training (a biennial flight review notwithstanding). The program was not extended to airlines and the military because of their recurrent training requirements and their in-house safety offices. By virtue of the fact that there are numerically more general aviation airmen, they also had the most accidents.

This Accident Prevention Program policy appears to have been successful: General aviation has enjoyed a decade-long decline in total accidents, fatal accidents, and fatalities. By the same token, however, airspace configurations have become more and more complex, and an increasing number of general aviation airmen must share that airspace with air carrier and military aircraft. Incorporating all airspace users into the accident prevention program is an even more logical extension of the program's original premise.

In September 1989 Ms. Grasel put the word out on this new focus and asked for ideas around which she and the Region's 13 APPM's could build a prototype program. Shortly afterwards she received a call from Cliff Elbl, the Geographic Unit Supervisor at FAA's Flight Standards District Office in Van Nuys, CA. He indicated he had something that might be of interest, and it was something every airspace user could relate to: near mid-air collisions.

The specter of Cerritos, CA (the mid-air collision of an Aeromexico DC-9 and a Piper PA-28 in the Los Angeles TCA) still haunts every pilot as does the image of the scattered remains of a twin engine *Aerostar* and a Bell helicopter (the recent mid-air collision near Philadelphia that killed U.S. Senator Heinz and five others, plus two schoolchildren on the ground). A mid-air collision is the ultimate aviation horror because it implies that someone, somewhere failed in performing a pilot's foremost responsibility toward his or her passengers—seeing and avoiding another aircraft. Often this is a momentary failure that exacts innumerable costs in lives and property, and every pilot feels the fall-out when one occurs.

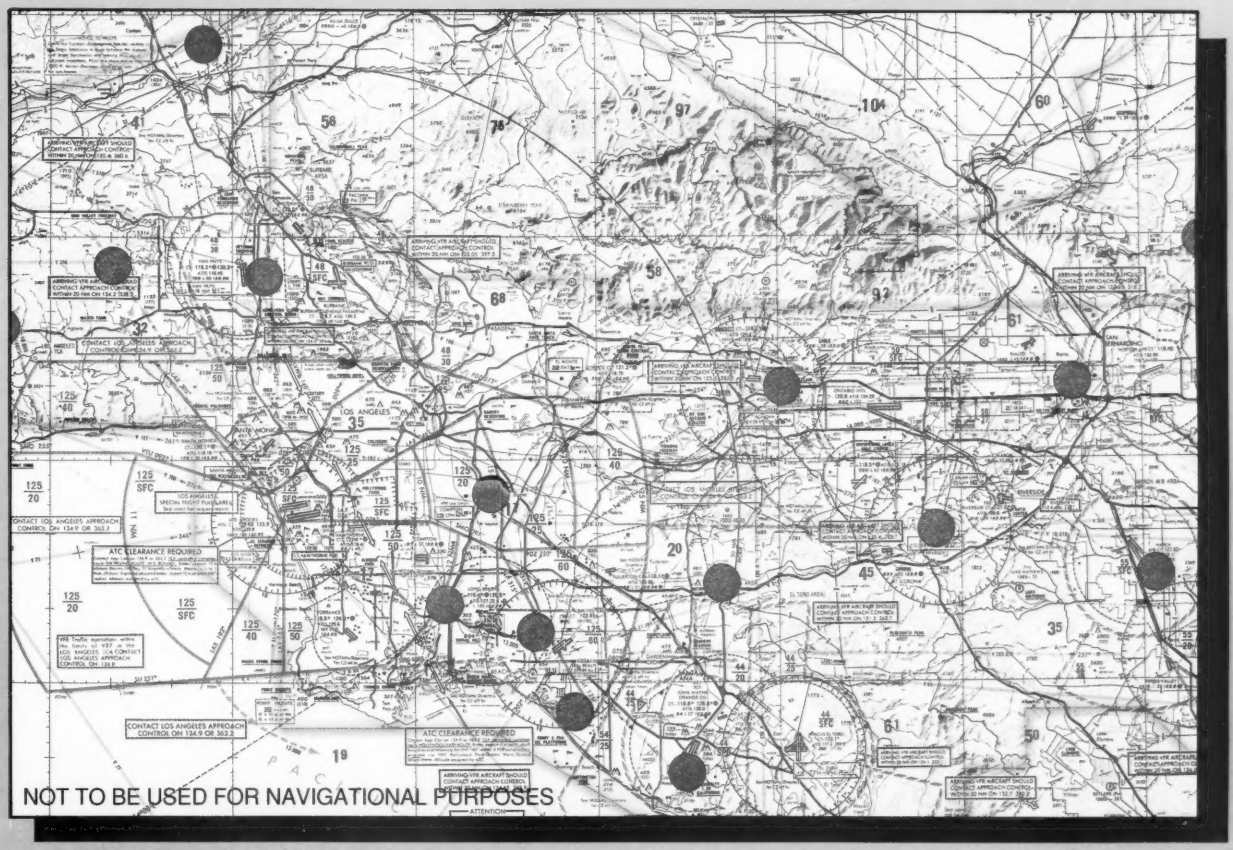
Mr. Elbl introduced Ms. Grasel to an enterprising inspector named Scott Schoonover who had, over a two-year period, amassed NMAC reports from FSDO files, air traffic reports, and the National Aeronautics and Space Administration's (NASA) Aviation Safety Reporting System (ASRS). Mr. Schoonover went a step further and plotted each of the occurrences on a Los Angeles terminal control area (TCA) chart. What emerged was "clustering," or a grouping of NMAC's at 16 definite locations. In the best Sherlock Holmes tradition, the NMAC game was afoot: Schoonover eliminated all the probabilities and came up with an interesting improbable. As he plotted recommended VFR fly-ways on the chart, followed by the plots of Standard Instrument Departures (SID's) and Standard Terminal Arrivals (STAR's) used in the Los Angeles area (LA Basin), a startling, unexpected pattern emerged.

Without a miss, each of the 16 clusters of NMAC's lay where a VFR fly-way crossed a SID or STAR.

The Environment

The Los Angeles (LA) Basin consists of approximately 16,000 square miles of some of the most complex airspace in the country. The Basin roughly encompasses the area from Newhall Pass in the north to a point halfway between Long Beach and San Diego in the south; from the Pacific Ocean eastward to Palm Springs. There are 13 controlled airports of varying sizes, including Los Angeles International Airport (LAX), and 12 uncontrolled airports. There are four military air bases as well as military training routes and other special use airspace. Four FAA FSDO's have jurisdiction there: Van Nuys, LA, Riverside, and Long Beach. Approximately 40,000 airmen are based in the area, with uncountable transients. Several 10,000-foot mountains edge the Basin, and a nearly perpetual smoggy haze overhangs it.

In addition to the specific conditions in the LA Basin, all airmen share a pilot/pilot and a pilot/controller attitude problem. There are negatives on both sides and a great deal of talking at, but not listening to, each other. We have the general aviation pilot, perhaps resentful that pilots of "big iron" get all the help while the general aviation pilot cannot get into a TCA or ARSA on request but does get a lot of adverse attention when an



When FAA specialists plotted NMAC's which occurred over a two year period on a Los Angeles terminal area chart, a clustering of 16 spots emerged (only 15 shown). Chart courtesy of FAA's AWP APPM.

accident occurs. We have an airline pilot attitude that the "little airplanes" are a dangerous nuisance and only get in the way of people doing serious aviation business. Controllers must be able to integrate both groups of pilots in the small chunk of airspace defined by their radar scopes. Granted, these are stereotypes, but they are endemic of attitudes in the industry.

All of these negative attitudes lead to only one thing: lack of communication. Unless all these elements begin to talk *with* each other and understand each other's perspective, the FAA/industry partnership could accomplish very little in any area. Thankfully, NMAC's are a problem that everyone has in common and can help to alleviate by sharing knowledge and understanding the others' points of view.

The Plan

After reviewing Mr. Schoonover's information at Van Nuys, it was evident that his dots indicated a potential disaster and that the lack of communication among the airspace users would hinder efforts to head off that disaster. But what if the Accident Prevention Program could bring together all the elements? What if general aviation pilots could explain their position in such a way that airline pilots, air traffic control, and the public could begin to understand? What if airline pilots could demonstrate what the issue looks like from their cockpits? And what if air traffic could break away from the radar room and see the pilots' point of view while sharing their own? Could the FAA even get all three segments together and get them talking *with* each other?

It was no cliffhanger where you had to "tune in next week." Ms. Grasel and her impromptu team immediately got on the phone to friends and contacts in all three segments and posed the problem and the solution. The response all around was affirmative. Not only were all three groups willing to sit down and talk, they said it was about time, especially considering the topic.

Representatives from general aviation and the airlines along with flight standards and air traffic representatives from FAA met to do some preliminary brainstorming. They decided on a three-pronged presentation: General aviation, air carrier, and air traffic each with a separate part. Ms. Grasel began scripting the overall presentation based on the brainstorming session. She soon realized that the approach had to be something unique, not like the typical accident prevention presentation. Ms. Grasel called on her days as chief instructor for a large FAA-approved pilot school and designed the presentation like a Training Course Outline. This presentation would be a three-module course with objectives, a syllabus, standards, and even tests.

In October of 1989, Ms. Grasel presented a rough version of the course to a Western-Pacific managers conference. The plan was that every FSDO, especially those with busy ARSA's or TCA's, would do what Scott Schoonover had done for LA. The APPM would have a virtually ready-made program that could be personalized for the specific geographic area.

Honolulu, HI offered to be the guinea pig for the first full-scale presentation of the course, which by now had been officially dubbed "Project START." In Honolulu the problem was not so much clusterings of NMAC's around SID/STAR and VFR flyways. There, VFR routes for tour flights intersected routes used

by the military for training, and that is where their clusterings occurred. The Honolulu FSDO added the military to its working group of general aviation, air carrier, and air traffic. As a result of their cooperation, the military agreed to shift some of their training routes away from the VFR tour routes. Furthermore, the evidence of the NMAC's plotted on the chart was so convincing that air traffic there received a new radar site.

Over the next year, all the FSDO's in the LA Basin, the Reno, NV FSDO and the San Jose, CA FSDO have followed suit. So far, over 3,000 airmen in the Western-Pacific Region have learned how to avoid becoming a statistic.

The course's three modules have been designed to allow both standardization of statistical information and personalization to fit the geographic area where the APPM's present them. Module 1 is where general aviation, through the Accident Prevention Program Counsellors, gets to say its piece. It is also the module most extensively scripted. Airline pilots present Module 2, and Module 3 is left up to air traffic.

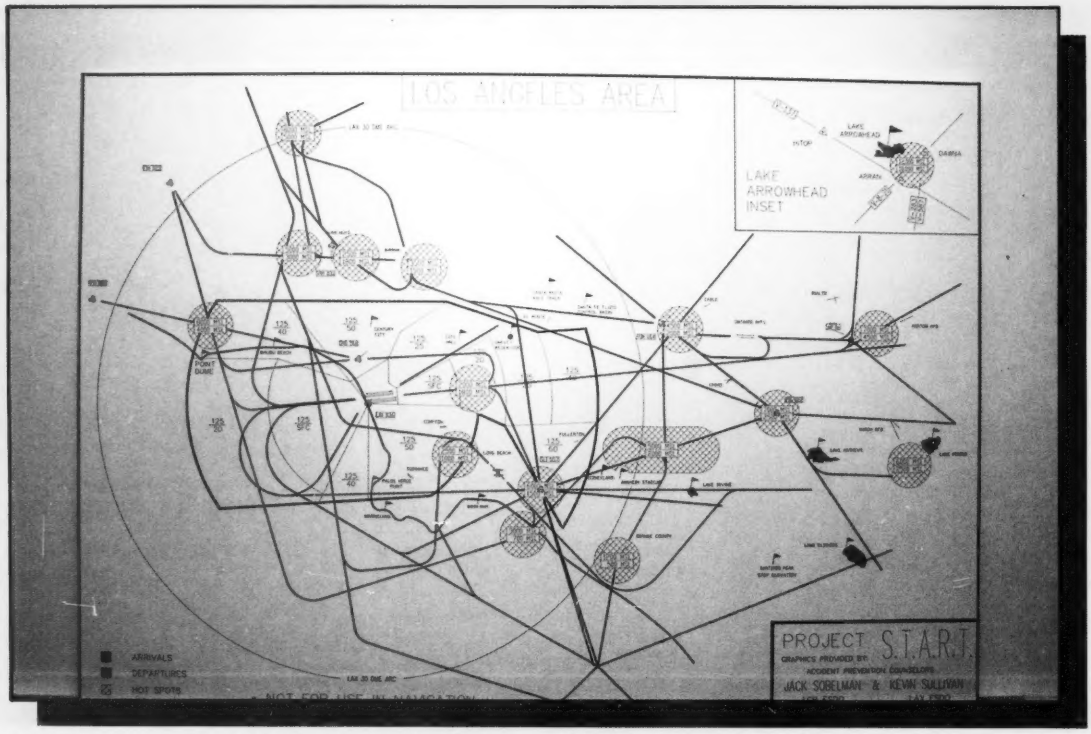
Module 1 — General Aviation

From Module 1 the airman learns a great many things, including what exactly is a NMAC. There are actually three types of NMAC's, based on the degree of hazard they pose. FAA classifies a NMAC as *critical* if there is less than 100 feet between aircraft, i.e., the aircraft are too close for either pilot to take evasive action. A NMAC has a *potential* hazard when there is between 100 and 500 feet between aircraft and either or both pilots take successful evasive action to prevent a collision. A *no-hazard* NMAC is one where the aircraft's different altitudes and directions of flight make a collision improbable.

You might ask, "When and under what conditions am I likely to be involved in a NMAC?" Module 1 answers this question quite dramatically, based on data from FAA's NMAC reports and ASRS. If you are flying in daylight in VMC between the hours of 6 a.m. and 6 p.m. on a weekend at an altitude somewhere between the surface and 6,000' AGL while enroute on an IFR flight plan, you are the ideal candidate for a near mid-air collision. If you are an airline transport pilot, you will make 80% of the NMAC reports, 80% of which are between general aviation and air carrier aircraft. So, recognizing the improbability of flying at night in IMC between 6 p.m. and 6 a.m. during the week above 6,000' AGL while taking off or landing on a VFR flight plan, Module 1 emphasizes the use of the best known collision avoidance device: the pilot's eyes.

After this statistical teaser, which is standard wherever the program is presented, comes the personal data: This is where the local APPM has plotted NMAC reports on the chart for the particular geographical area. This, then, is the most meaningful portion of the module for the pilot because the pilot will see familiar sites and landmarks, areas he or she frequently flies through and can relate to. This section of the module brings the problem "home" to the pilot. After this, the pilot knows the "hot spots," and now the pilot has choices to make: extra vigilance or avoidance among them.

To lead into the air carrier presentation, Module 1 continues with an expression of the general aviation point of view: We are fully and appropriately qualified airmen who have a need for and a place in this airspace system; we no more want to have a close encounter with an air carrier aircraft than the air carrier does; we want and need access to the air traffic system and services as our qualifications allow and safety demands. The important aspect stressed here is that the general aviation pilot can and should make the choices mentioned above without need for air carrier or air traffic, through misunderstanding, imposing a "choice" that only benefits a few.



Plotting the recommended VFR flyways, standard instrument departures (SID's), and standard terminal arrivals (STAR's) used in the LA area showed that the 16 clusters of NMAC's lay where a VFR fly-way crossed a SID or STAR. Shown is one diagram prepared for a Project START Program. Courtesy of FAA's AWP-APPM.

Module 2 — Air Carriers

This module is designed for the airlines to present. The module contains a basic outline of content, but the method of presentation and the details are left up to the airlines that elect to participate. Initially, some of Project START's planners feared that the airlines would use the time for self-promotion, but that has not been the case. Several major airlines based or hubbed in the Western-Pacific region have participated, and the seriousness with which they have taken their role is obvious. The airline pilot selected to make the presentation is usually a line pilot, that is, one who uses the system in the specific area regularly. Preferably, the presenters are airline pilots who started in general aviation, so that they have an understanding of both perspectives.

In Module 2 the airlines' part is to highlight the physical differences in airline equipment and procedures that keep the airline pilot's head in the cockpit for prolonged periods. The explanation even extends a bit into aircraft design and engineering: An airliner is pressurized and, therefore, must be structurally strong enough to withstand the forces of pressuration. Glass detracts from the structural integrity so its use must be keep to a minimum; therefore, airliner windows are small with wide posts between them. A typical light general aviation aircraft cockpit may have several square feet more glass area, and thus fewer blind spots, than the cockpit of an airliner.

Furthermore, airline pilots have more numerous and extensive checklists, required by regulation, that preclude pilots from looking outside as much as they would like. As well, there are more instruments and dials to check, more information to be entered in on-board navigation computers, more frequencies to tune and check—all of which keeps the pilot's eyes inside. SID's and STAR's in some areas are so complicated, have so many frequency, radial, and altitude changes, that pilots must consult them almost constantly to assure following the procedure correctly. Even the physical layout and position of the cockpit cut in on the pilot's scanning time and ability. Analog instruments and dials scattered about the cockpit require a longer inside scan to integrate vital information. Ergonomic cockpit design, heads-up displays (HUD), Enhanced Flight Information Systems (EFIS), coming into wide use among airlines, and streamlined checklists will all help to get the airline pilot's eyes back outside where they do the most good in collision avoidance.

The airline pilot presenter will go on to emphasize that airline pilots understand that general aviation pilots may have some difficulty judging speed and distance of many new aircraft designs. For example, a B-737, B-757, B-767, and an Airbus are configured similarly, but they are of very different sizes. A general aviation pilot may think that the large, two-engine transport in the windshield is a 757 far away when it may be a 737 close up—too close for comfort. Winglets and other appendages to modern aircraft may provide very unusual profiles to general aviation pilots, making it difficult for that pilot to judge make and model and speed and distance quickly.

Module 2 is designed to be personalized extensively. The APPM can have the major airlines in an area present general aviation pilots with pictures and physical descriptions of the types of aircraft they are likely to see. Now, the general aviation pilot from Module 1 knows where to look and what to look for from Module 2.

Module 3 — Air Traffic

Controllers from a TRACON, Terminal Radar Approach Control, present Module 3, where pilots get an overview of the area the TRACON covers and the services it can provide. The controllers also describe a typical busy work shift for them: 60 to 80% of their time is spent on landlines coordinating handoffs to and from other controllers. One effective graphic is a presentation of all the inbound and outbound tracks for a single shift, the spaghetti-like tracings looking like some piece of abstract art. The controller describes the equipment used and its limitations, and they also emphasize that they are there to serve all pilots. One of the most useful pieces of information from the controller is the times when the terminal area is the least busy, i.e., the time when the controller is most likely to be able to handle a request from a general aviation pilot.

One often-offered solution to reducing potential midair collision threats in busy airspace is more controllers. In Module 3 the controllers show that more controllers would only make more segments out of the airspace and actually make traversing it more complicated. The coordination alone would be a nightmare. But controllers are in full support of keeping access of their airspace open to anyone qualified to fly in it.

Module Follow-ups

After each module, attendees receive a "quiz" on what they have learned, but realizing that follow-on training is needed for such an extensive program, the Western-Pacific team designed three "labs" for reinforcement. The first would be an opportunity for general aviation pilots to enter an air carrier cockpit to see for themselves not only the wondrous instruments but the limitations it imposes on its pilots. Next, the general aviation pilot would get a trip into a TRACON facility to see first hand the level of activity there. Finally, controllers would get to go up in a general aviation aircraft to a typical "practice area" or aerobatic "box." To show they are serious about their participation in Project START, many airlines have taken information on general aviation practice areas, aerobatic areas, and recommended VFR routes into their training centers to inform line pilots of these considerations.

These "labs" will help integrate the vast amount of material pilots garner from Project START, but more importantly, they allow everyone to see the other side of the issue and have a better understanding of everybody's position in the airspace system.

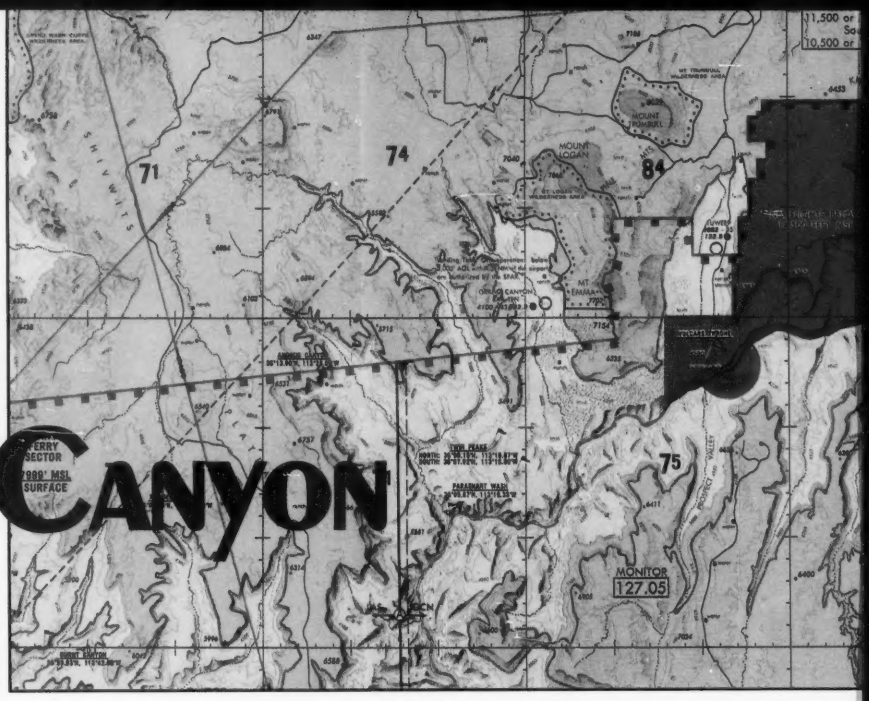
The Future

The NMAC reporting system indicates an upward trend during the first quarter of 1990 of general aviation reports. Everyone hopes that this indicates that the general aviation community is using the NMAC reporting system more since Project Start began. *Everyone* needs to make NMAC reports.

The National Accident Prevention Program plans to institute Project START in each of FAA's nine regions, so as the saying might go, "Coming soon to a FSDO near you." However, that does not mean that your local airport, flying club, or FBO cannot do an informal Project START. Instead of sharing near midairs in your hangar flying, plot where pilots have had close encounters on a sectional or TCA chart, then compare it with the type of airspace nearby. Draw your own conclusions then pass the information on in ground school, during flight instruction, or at local pilot meetings. Pass your information on to other airports in the area to get a complete, overall picture. Better yet, get several airports together and sponsor an Accident Prevention Program seminar that features your area. You might even get a leg up on your APPM, who will probably be grateful for your help in getting a local project START started. However, there is one drawback if you do a good job. You might get asked to be a presenter—a small price to pay to reduce the potential of a midair collision. ■

The Aviation News Staff would like to thank the Western-Pacific Region for its cooperation in the preparation of this article, especially Ms. Ruth Grasel and the San Jose Flight Standards District Office. Any questions on Project START can be directed to Ms. Grasel at P. O. Box 92007, Worldway Postal Center, Los Angeles, CA 90009.

Charting THE GRAND CANYON



by Jack Norris
Airspace Safety Coordinator
FAA Western-Pacific Region

When the Aviation News Staff received its copy of the new Grand Canyon VFR Aeronautical Chart, we were highly impressed and realized this was something we had to share with our readers. As we sat down to write about this innovative, new charting concept, we realized that Jack Norris, one of its principal designers, had already done a much better job. — *Editor*

One of the most exciting places a pilot can fly to is the Grand Canyon of Arizona. The view from the air as you approach the canyon is unequaled in this world. On a clear day, which is often, you can see for 100 miles. Truly, it is one of the wonders of the world. To protect this wonder, the United States Congress established the Grand Canyon National Park on February 26, 1919.

Located in northern Arizona, the Grand Canyon stretches for 280 miles long, measured along the Colorado River. Varying four to 18 miles in width, it averages nine miles wide and one mile deep. The canyon effectively bisects Arizona—separating the "panhandle" or extreme northern part of the state from its southern part. The north rim of the canyon exceeds 9,000 feet MSL. It is heavily forested and receives substantially more rain and snow than the south rim.

The south rim averages 7,000 feet MSL and is semi-desert in character. Water is very limited, and temperatures can be expected to be much higher than those on the north rim; a prudent pilot should be prepared to cope with extremes of both heat and cold. All pilots should be aware that the Grand Canyon is a fragile and very sensitive ecological area—to be shared and protected by all.

As visitors to the canyon increase annually, there is growing concern by environmentalists regarding the preservation of the park's natural environment. They are particularly concerned with aircraft overflights and the impact of aircraft noise on park users. In 1986 two air tour aircraft collided over the park with a loss of 25 lives. In response to concerns of increased aircraft noise and the safety of park visitors, the U.S. Congress passed legislation enacting the National Park Overflight Act of 1987 (Public Law 100-91). This law mandates the National Park Service (NPS) to implement an aircraft management plan that would provide for a substantial restoration of "natural quiet" and public protection from adverse effects associated with aircraft overflights. The Federal Aviation Administration (FAA) was tasked with providing technical assistance to the Park Service.

To comply with the wishes of Congress to control overflights, rulemaking established the "Grand Canyon Special Flight Rules Area" (SFRA). Special Federal Aviation Regulation 50-2 (SFAR 50-2)presently governs the airspace over Grand Canyon National Park. This rule will remain in effect pending a final report to Congress by the NPS and until such time Congress determines that their concerns have been addressed.

The major features of the SFRA are that it:

1. Establishes control of all airspace within the SFRA below 14,500 feet MSL.
2. Establishes four noise sensitive areas identified as flight free zones (NO FLIGHTS AUTHORIZED BELOW 14,500 FEET MSL).
3. Establishes four VFR flight corridors through the flight free zones.
4. Divides the SFRA into five sectors.
5. Provides three exclusive use frequencies for operations conducted within the SFRA.

While somewhat complex, these features constitute a reasonable compromise considering the alternatives. One such serious but unrealistic proposal suggested the total ban of aircraft overflights over all national parks and wilderness areas.

There is no doubt that users of the park's airspace share the concern of others regarding the protection of the park's natural resources, and they would gladly cooperate in avoiding clearly identified noise sensitive areas (flight free zones). As a member of the Grand Canyon Oversight Committee, I was concerned that the SFRA information available on the Las Vegas Sectional Aeronautical Chart was not as helpful as it could be, considering the extreme environmental sensitivity. Robert Trout, an FAA Aviation Safety Inspector out of the Las Vegas Flight Standards District Office, and the man most responsible for the day-to-day flight operations over the canyon, shared my concern.

With the approval and support of the Flight Standards and Air Traffic Divisions, Bob and I were given the enviable

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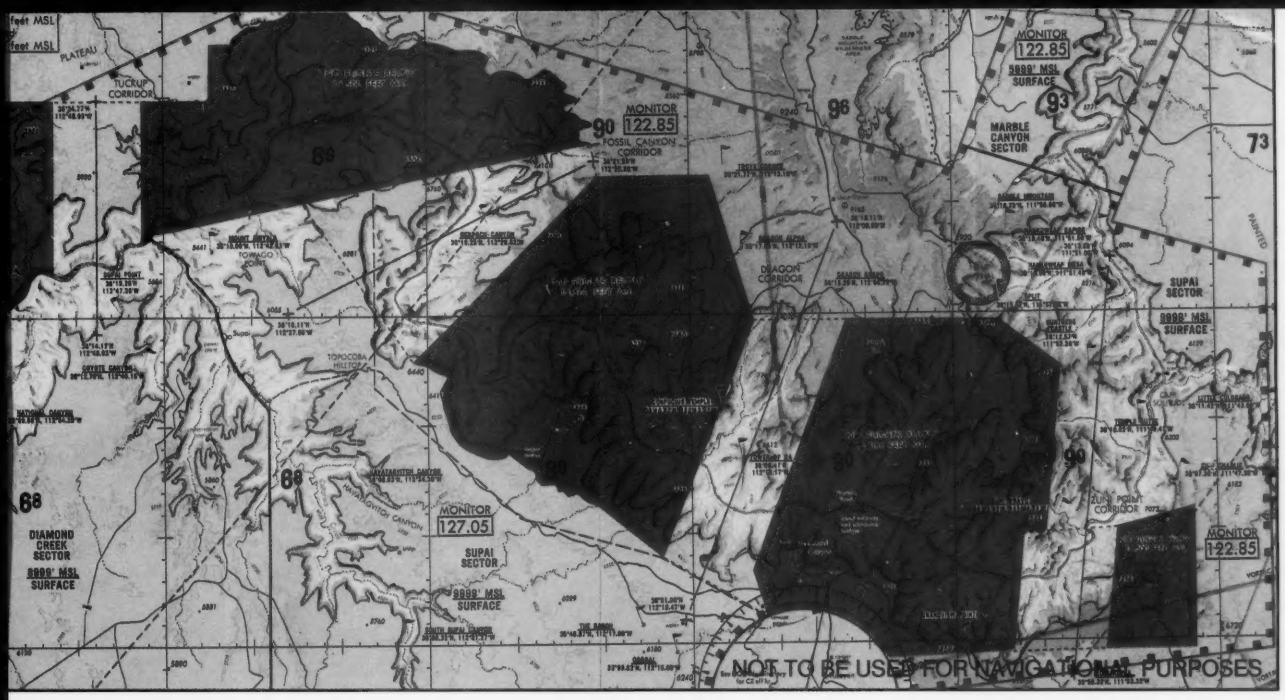

opportunity to design an original aeronautical chart from scratch. Our primary goal was to provide as much useful information as possible without adding complexity. Unfortunately, the immediate result was complexity, while we tried to satisfy the needs of the general aviation pilot and the air tour pilot on the same chart. Fortunately, Bob came up with a simple solution—a general aviation chart on one side and a commercial air tour operator chart on the other.

Having consulted with both the experienced canyon pilots and the occasional users and having frequently flown the canyon ourselves, we felt we had a good idea what the new chart should look like. Some of the major features unique to this chart are:

1. Its "two-sidedness"—one side for the general aviation pilot, the other for exclusive use by approved air tour operators.

2. Doubling the scale of the chart to improve its clarity and use in contact navigation.

3. Prominently outlining the canyon rim and removing the park boundary, again for clarity and ease of use for navigation.

4. Depicting the flight free zones and flight corridors on the body of the chart, an option not available on the Las Vegas Sectional.

5. Identifying each corridor centerline.

6. Providing LORAN and VOR/DME data to assist in visual navigation through the corridors.

7. Providing photographs of corridor entry points and other reporting points.

8. Providing approved commercial air tour operators with specific route information, altitudes, direction of flight, and compulsory reporting points.

As mentioned earlier, the effect on the environment of Grand Canyon National Park of aircraft overflights is still under evaluation. The results of this evaluation may determine the future of aircraft operations over all national parks and wilderness areas in the country. Therefore, it is extremely important that aircraft remain outside the identified flight free zones. Considering the significance of this, many people felt that additional and specific information should be made available to pilots. To that end, we have developed a "Grand Canyon VFR Pilot Briefing Pamphlet." The pamphlet briefly deals with the development of the SFRA, includes safety-related information, operational and environmental information, and other useful data like weather, lodging, and transportation information. Photographic and electronic data related to each of the four VFR corridors are also included. Unfortunately, the pamphlet is not yet available, as we consider the possibilities of distribution through the Accident Prevention Program and/or the Cartographic Branch of the National Ocean Service. In the meantime, the chart is available for $2.75 from NOAA Distribution Branch, N/CG33, National Ocean Service, Riverdale, MD 20737-1199.

The new Grand Canyon VFR Aeronautical Chart became effective on this past April 4. The initial comments receives have been very good. If you are planning a flight to or in the vicinity of Grand Canyon National Park, try the new chart. We think you will like it. ■

Editor's Note: In addition to Jack Norris and Bob Trout of the FAA, Mike Smith of the FAA's Cartographic Standards Branch in Washington, DC, and Donna Gallant of the National Ocean Service also contributed to the development of a local chart for the Grand Canyon.

Photo by: Margaret Farrell
Courtesy of the National Park Service

1991 **Award Competition**

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FAA FLIGHT STANDARDS DISTRICT OFFICE

And the Nominees Are...

In an effort to recognize publicly the important role and contributions maintenance technicians and flight instructors play in aviation safety, every year the FAA and the aviation industry make a national effort to single out the most outstanding individual in both categories. The competitions are called the General Aviation Flight Instructor of the Year Award and the General Aviation Maintenance Technician of the Year Award.

Why is it important to single out a particular instructor or a particular mechanic? Incentive to others is a major reason. Being nationally recognized by your peers, the industry you work in, and the agency that regulates you is something to strive for. Perhaps equally as important is the fact that instructors and mechanics are the "glue" of this industry. Without people to teach us how to fly or people to keep our machines flying, the whole industry would come apart (literally and figuratively) quite rapidly. So, we reward all instructors and all mechanics symbolically by singling out one instructor and one mechanic for recognition.

Arriving at two national winners is a rather involved process. Airmen can nominate their instructor or mechanic; CFI's can nominate their peers, mechanics their shopmates. Each of FAA's 92 Flight Standards District Offices (FSDO) selects a local winner in each category. The local winner receives some form of recognition, a plaque or a certificate. The FSDO's then send the names of the local winners to their respective regional offices, and each of the nine regions selects a regional winner in each category. These 18 regional winners' names come to FAA's national Accident Prevention Program office in Washington, DC where an FAA/industry panel selects the CFI and the AMT of the Year. In a way, though, everyone who is nominated is a winner because he or she has earned the respect of fellow airmen.

Who can you nominate? All mechanic nominees must be employed in the U.S. as full-time FAA certified aviation mechanics or as FCC-licensed technicians working on general aviation aircraft or accessories. Instructor nominees must be U.S. certificated, active, civilian flight instructors. Selection, local, regional, and then national, is based on the nominees' specific contributions, achievements, and/or sustained superior performance in their field, especially in enhancing aviation safety. The national winners receive several thousand dollars in cash and prizes and also a trip to Washington, DC for the November awards ceremony.

If your instructor and/or mechanic is a safety stand-out, fill out the nomination forms following on pages 15 and 16 or obtain additional forms from your local FSDO. In order for your nominee to be considered, you must submit nominations to the nearest FAA FSDO by July 31, 1991. ■

NOMINATION FORM

1991 General Aviation Flight Instructor of the Year National Award

INSTRUCTIONS: Use a separate form for each nomination.
All entries must be typewritten or neatly hand lettered. See reverse side for additional information.

I nominate the following for consideration for the 1991 General Aviation Flight Instructor of the Year national award.

Name: _____ FI Certificate No: _____

Address: _____ Social Security No.: _____

City, State, Zip: _____ Business Phone No: _____ Home: _____

Employer: _____

Employer's address: _____

Year first designated as a Flight Instructor: _____ Number Years Experience: _____

Total Flight Hours: _____ Total Instructional Hours: _____

Certificate & Ratings Held: _____

Describe, in 500 words or less, the nominee's background in flight instruction, including any safety contributions (safety seminars, instructional techniques) and other information you find pertinent to this award selection. All entries become the property of the National Selection Committee and will not be returned. *(If additional space is required, attached additional sheets).*

Nomination submitted by (if other than nominee):

Name: _____ Address: _____

Telephone No: _____

Date: _____ Signature of person submitting nomination: _____

FOR SELECTION COMMITTEE USE ONLY

NOMINATION FORM

1991 General Aviation Maintenance Technician of the Year National Award

INSTRUCTIONS: Use a separate form for each nomination.
All entries must be typewritten or neatly hand lettered. See reverse side for additional information.

I nominate the following for consideration for the 1991 General Aviation Maintenance Technician of the Year national award.

Name: _____ FAA certificate No: _____

Address: _____ FCC license No: _____

City, State, Zip: _____ Social security No: _____

Employer: _____ Business No: _____ Home: _____

Employer's address: _____

Year first designated as a maintenance technician: _____

Number years experience: _____

Describe, in 500 words or less, the nominee's background as an aviation maintenance technician, including any safety contributions (procedures, devices, techniques or inventions) and other information you find pertinent to this award selection. All entries become the property of the National Selection Committee and will not be returned. *(If additional space is required, attached additional sheets).*

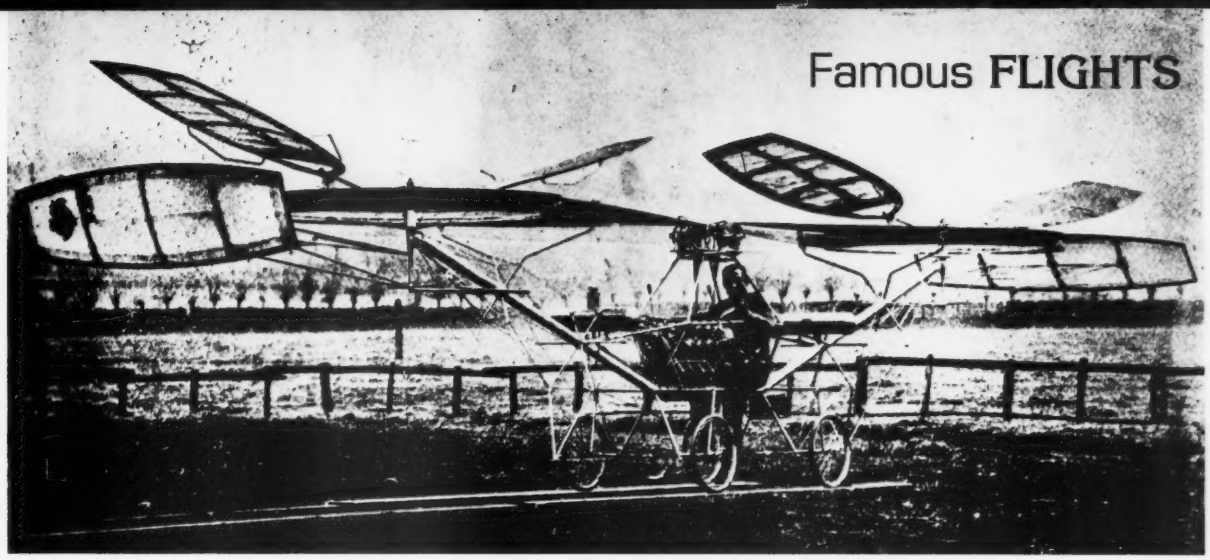
Nomination submitted by (if other than nominee):

Name: _____ Address: _____

Telephone No: _____

Date: _____ Signature of person submitting nomination: _____

FOR SELECTION COMMITTEE USE ONLY



Paul Cornu: One Piece of the Vertical Flight Puzzle

Development of the helicopter can be likened to a jigsaw puzzle with the correct placement of each piece solving such problems as lack of power, stability, control, and torque. From its earliest mention as a fourth century Chinese toy, the idea of vertical flight has intrigued succeeding generations with each contributing another piece to the puzzle, but progress was slow. In fact, it was not until the 1860's that vertical flight aircraft were even given a name. Viscount Gustave de Ponton d'Amecourt combined the words "heliko" (meaning spiral) and "pteron" (meaning wing) coining the word "helicopteres." It was only in the beginning of the 20th century that technology could even begin to make practical experimentation of full-size models possible.

After the Wright brothers proved that powered, manned flight was possible, the Deutsch-Archdeacon prize was offered to encourage the further growth of aviation. Named after its wealthy sponsors, the prize was offered to the first pilot to fly around a specified one kilometer (.62 mile) course.

The race was on with the contestants experimenting with a variety of designs from fixed-wing aircraft to primitive helicopters. Of all the aircraft builders, only the Wrights had more than met the prize requirements with flights of more than 24 miles lasting over 30 minutes. However, for some reason they chose not to compete, leaving the field wide open to all the others, who had barely flown a quarter of the required distance. It is not surprising that nearly every hopeful aircraft inventor was scrambling for the 50,000 franc ($10,000) prize. One of these contestants was a French engineer, Paul Cornu from Lisieux, a firm believer in vertical flight.

In 1906 Cornu had flown successfully a model helicopter that weighted 28 pounds. Feeling he had a good chance to win the Deutsch-Archdeacon prize, he built a full-scale model that had been financed by 125 friends. They must have believed his sales pitch because each chipped in the then astronomical sum of 100 francs ($20). By August of 1907 he was ready to test fly the full-scale machine, but not confident enough yet to fly it himself. The "pilot" would be a 110-pound bag of sand. After a series of adjustments based on the results of the test flights, he was ready to act as test pilot.

Cornu's helicopter was a compact two-rotor machine measuring 40 feet 4 inches in length and weighing a total of 573 pounds. The framework consisted of 20-foot steel tubing bent to form a long wide U with the rotors mounted in tandem on either end. The paddle-shaped rotor blades were 5 feet 11 inches in length and linked by a leather drive belt running over pulleys above the pilot's head. It had two tilted wind vanes mounted under the main rotors that were supposed to propel the machine forward by deflecting the slipstream from the rotors backwards and downwards. However, it never functioned successfully as the driving force of the wind vanes was weak. The cockpit area was compact to say the least. The 24 horsepower Antoinette engine was practically in the pilot's lap and the pilot's seat was directly over the battery and the landing gear, which was composed of four bicycle tires.

On November 13, 1907, Cornu took off in this ungainly looking ancestor of the helicopter and ascended to the staggering altitude of one foot and hovered there for about 20 seconds. This earned him a place in aviation history for making the first successful manned free flight in a helicopter. On later flights, he managed a height of five feet and was timed at six miles per hour in forward flight. He also gained, by accident, a record for two-person flight when his brother grabbed the craft's frame to keep it from tipping and ended up in the air instead. The brother apparently was not terribly impressed with his record-making flight, because the helicopter was tethered for all future test flights.

Over the next few months Cornu would lift off about 15 times and achieve forward and backward movement in more than 300 flight attempts. Then the unthinkable happened on January 13. Henry Farman's fixed-wing aircraft flew around the one kilometer course and won the Deutsch-Archdeacon prize.

Paul Cornu gave up his helicopter experiments in 1909. He could not seem to conquer problems involving the aircraft's severe lack of control and stability in flight. More importantly, he lacked the money to continue his experiments, so he faded from vertical flight history. Although his helicopter was not as successful as he had anticipated, Cornu had added one more piece to the vertical flight puzzle—the first true "free flight" of a manned helicopter.

The emergence of the total picture would have to wait 30 years for Igor Sikorsky to successfully develop the first practical helicopter. By the mid-1940's another tandem helicopter was developed—this time successful—by Frank Piasecki. No doubt its nickname, the "Flying Banana," would have brought a smile of irony and pride to a certain French engineer. ■

OSHKOSH '91

by Dean Chamberlain
Associate Editor

Since this is the July-August issue of *FAA Aviation News*, the countdown to Oshkosh '91 is well under way. For you new pilots not familiar with the Wisconsin town of Oshkosh, it is the home of the Experimental Aircraft Association (EAA) and its 39th annual Fly-in and Convention. If you are one of our new subscribers, our last issue featured EAA as part of our Special Series: FAA and Industry. For those of you who know about Oshkosh, you know it means family fun, excitement, and aircraft converging on a medium-sized city in the midwest. It also means thousands of people in and around those aircraft. According to EAA, last year more than 850,000 people and 13,000 aircraft attended the seven-day event.

Because Oshkosh is a *fly-in* activity, some say the only way to enjoy it fully is to do just that—fly in. Every year literally thousands of aircraft fly to and from Oshkosh; for most it becomes the highlight of their flying lives. For a few unprepared pilots it has been a nightmare of traffic congestion, reroutings, and diversions. To ensure your own safety and that of others, if you are planning on flying to Oshkosh this year, you should have two items *circled in red* on your personal pre-departure Oshkosh checklist. One is to read and hopefully obtain a copy of the FAA Oshkosh '91 NOTAM (Notice to Airmen) which outlines the procedures for flying to and from Wittman Regional Airport in Oshkosh and surrounding airports. The second item, especially if you have never flown to Oshkosh before, is to view the new FAA Oshkosh '91 video tape that visually and graphically shows some of the procedures described in the NOTAM.

The Oshkosh '91 NOTAM is available through your local FAA office or Flight Service Station. You need to be aware of and should follow the instructions outlined in the NOTAM to avoid any unnecessary delays or problems during your flight to or from the Oshkosh area. Although the dates for Oshkosh '91 are Friday, July 26, through Thursday, August 1, 1991, please note the effective dates for the procedures outlined in the NOTAM are July 24 through August 1.

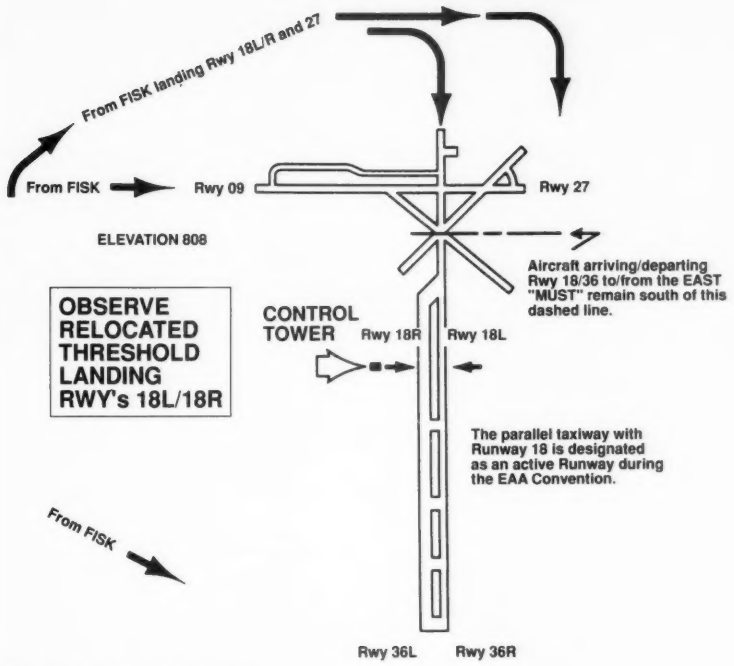
The NOTAM outlines the arrival and departure procedures for aircraft by either arrival category such as type of flight plan, VFR or IFR, communication capability, radio or no radio, or type of aircraft, such as warbird or ultralight vehicle. The NOTAM has detailed flight route

diagrams for each category of aircraft: VFR, IFR, Warbird, NO-RADIO (NORDO), and ultralight traffic.

If your aircraft does not have a radio, a NO-RADIO (NORDO) aircraft, the NOTAM has special instructions which includes a filing deadline for you to request permission to land at Oshkosh. The deadline is July 24.

In addition to the NOTAM, FAA has produced a videotape which visually depicts and discusses each arrival procedure. The video uses computer graphics and actual aerial shots of the various landmarks around the Oshkosh area to help you identify the reporting points used by air traffic controllers. *Please note the video tape does not include all the information contained in the NOTAM.* You must still read the NOTAM for complete details. All EAA chapters, all FAA Flight Service Stations, all FAA Flight Standards District Offices, and all FAA Accident Prevention ProgramManagers received a copy of the videotape, called *Oshkosh '91, VFR Arrival Procedures for*

Procedures for VFR Radio Equipped Aircraft


From FISK landing Rwy 18L/R and 27
From FISK
Rwy 09
Rwy 27
ELEVATION 808
Aircraft arriving/departing Rwy 18/36 to/from the EAST "MUST" remain south of this dashed line.
OBSERVE RELOCATED THRESHOLD LANDING RWY's 18L/18R
CONTROL TOWER
Rwy 18R
Rwy 18L
The parallel taxiway with Runway 18 is designated as an active Runway during the EAA Convention.
From FISK
Rwy 36L
Rwy 36R

Not for navigational purposes

contact is lost for more than 15 minutes, the FSS alerts Search and Rescue. (Please note: The service is also available for other lake, island, mountain, and swamp areas of the country. The Airman's Information Manual, paragraph 4-171, Hazardous Area Reporting Service, has complete details on this valuable FSS service.) Because of frequency congestion, GRB AFSS discourages air filing of requests between the hours of 6 a.m. and 9 p.m. CDT. See the following FSS frequency chart for specific frequencies to be used for contacting GRB AFSS. When contacting GRB AFSS, you should give the frequency you are listening to and provide your complete aircraft call sign. Remember, Flight Watch, 122.0, is available for enroute weather updates.

As outlined in the NOTAM, if you are a VFR pilot, you should add an additional 30 minutes to your ETE to allow for unexpected delays in approaching Oshkosh. You may also want to cancel your flight plan on approach to Oshkosh because of possible 45 minute parking delays after landing. *Remember, if you filed a VFR flight plan, please close it.* If you do not plan on filing a VFR flight plan, why not? It is cheap insurance, no cost, that could help save your life and those you love.

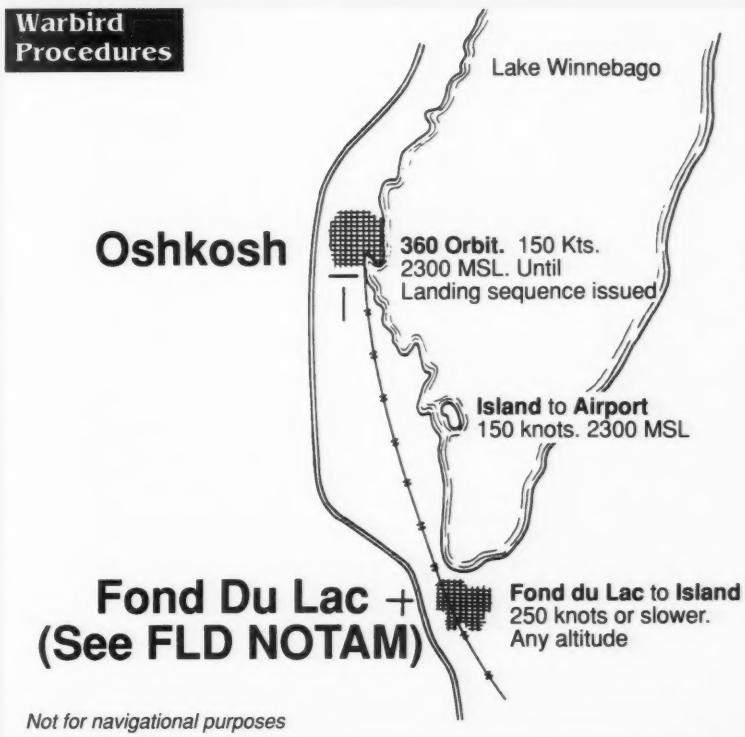
Continued on inside back cover

1991 EAA Convention. Contact any of the above to arrange for a viewing.

For those of you who have never flown to Oshkosh's Wittman Regional Airport, the following NOTAM information may aid in your flight planning. (Because of limited space, we cannot reprint the entire NOTAM here, so please see the NOTAM for complete details.) The Green Bay Automated Flight Service Station (GRB AFSS) will provide 24-hour flight service support for you. Its telephone number for pilot briefings and flight plan services is 1-800-992- 7433. A temporary non-automated FSS located in the FAA Building at the EAA Convention site will provide flight services during the convention between the hours of 6 a.m. and 8 p.m. CDT daily and on Friday between the hours of 6 a.m. and noon.

Since there will be a large number of aircraft flying to Oshkosh '91, you should file your flight plans, Great Lakes Reporting Service request, and Customs notifications as early as possible before departure. For pilots not familiar with the Great Lakes Reporting Service, when requested, selected Flight Service Stations provide enroute monitoring of VFR flights crossing the Great Lakes. Once arrangements have been made for the service, the flight must make radio contact enroute with the FSS every 10 minutes. If

Warbird Procedures



Not for navigational purposes

IFR capable helicopters, such as this Fairfax County, VA, police helicopter, demonstrate the expanding use of fully-equipped IFR helicopters in service today. Once thought of as only VFR aircraft, helicopters can be equipped with the latest avionics to meet the needs of industry, the military, or special use operators such as public law enforcement. Photograph courtesy of Bell Helicopter Textron, Inc.

Helicopter IFR

by Ed Robinson
Aviation Safety Inspector

Instrument flying at times seems to raise many questions in our minds. The predominant one when you are in the soup, in busy airspace, in turbulence, and single pilot is "What am I doing here?" But seriously, folks, readers have raised enough helicopter IFR questions over the years that we have expanded the FlightFORUM's "Instrument Corner" for this issue. Most pilots find instrument flying to be both the most enjoyable and the most challenging aspect of aviation. Hopefully what follows will enhance the enjoyment and alleviate some of the challenge.

—Editor

Question 1:

If a helicopter pilot uses other than a helicopter only instrument approach procedure (IAP) and applies approach Category A minimum descent altitude (MDA) or decision height (DH) and reduces the published visibility minimum by one-half in accordance with FAR § 97.3(d)(1), must the pilot reduce airspeed to less that 91 knots for a straight-in landing? If so, at what point during the IAP must the pilot make this airspeed reduction?

Reply:

The key element in assuring a safe landing at the completion of an IAP is the assignment of landing minimums based on aircraft maneuverability. Performance characteristics have an effect on an aircraft's ability to maneuver to a safe landing, staying within the obstruction consideration area, primarily during circling approaches. Aircraft maneuverability is also considered when developing obstruction clearance requirements for missed approach procedures. When conducting an IAP, the necessity to execute a missed approach is always a possibility for any number of reasons.

Aircraft manufacturers/operational directives assign an alphabetical category (CAT) to each aircraft so that the appropriate obstacle clearance areas, turning radii, and landing and departure minimums can be established in accordance with the United States Standard for Terminal Instrument Procedures (TERPS). Aircraft categories are defined in FAR § 97.3(b), as a grouping of aircraft based solely on a speed of 1.3 V_{so} (stalling speed in the landing configuration at maximum certificated landing weight). Applying a second criteria of maximum certificated gross landing weight is outdated and no longer used. Additionally, FAR § 97.3(d)(1) states that helicopters may use CAT A MDA and DH. The maximum airspeed for aircraft defined as IAP CAT A aircraft conducting a CAT A IAP is 90 knots.

Because of the prospect of extending a circling IAP or missed approach procedure beyond the area for which obstruction clearance is provided, if at the missed approach point it is necessary to maneuver at speeds in excess of the upper limit of the speed range for a given IAP CAT (CAT A), the minimums for the next higher IAP CAT should be used (CAT B). Therefore, whether landing straight in or circling to land, helicopters should be at a speed less than 91 knots at the missed approach point when using IAP CAT A minimums. If a helicopter will maneuver at speeds in excess of 90 knots but less than 121 knots at the missed approach point, IAP CAT B minimums should be used in order to remain within the obstruction consideration area.

Reference: *United States Standard for Terminal Instrument Procedures (TERPS) Paragraphs 212, 213 and 1108; FAR § 97.3(b) and (d)(1); Airman's Information Manual (AIM), Paragraph 5-370(a) and 5-381(c).*

Question 2:
May a helicopter pilot reduce circling IAP visibility minimums by one-half?

Reply:
With the exception of helicopter only IAP(s), CAT A IAP visibility minimums may be reduced by one-half, but not to less than one-quarter mile or 1,200 RVR, provided the reduced minimums are not lower than those specified in the operations specifications for air taxi operators, if applicable. It must be remembered that whether landing straight in or circling to land, helicopters should be at a speed less than 91 knots at the missed approach point when using IAP CAT A minimums and should fly the circling maneuver at the slowest speed consistent with safety and performance requirements. (see question #1).

Reference: *FAR § 97.3(d)(1).*

Question 3:
At what point during a circling IAP may a helicopter descend below the MDA and reduce airspeed for landing?

Reply:
The helicopter must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and the flight visibility may not be less than the visibility prescribed in the standard CAT A IAP being used (see question #2). Additionally, at least one of the following visual references must be distinctly visible and identifiable to the pilot:

(a) The approach light system;
(b) The threshold;
(c) The threshold markings;
(d) The threshold lights;
(e) The runway end identifier lights;
(f) The visual approach indicator;
(g) The touchdown zone or touchdown zone markings;
(h) The touchdown zone lights;
(i) The runway or runway markings; or
(j) The runway lights.

Also, when the helicopter is maneuvering at or above MDA to circle to land, an identifiable part of the airport must be distinctly visible to the pilot at all times, unless the inability to see an identifiable part of the airport results only from a normal bank of the helicopter during the circling maneuver.

Reference: *FAR § 91.175(c)(1)(2)(3), and (e)(2); AIM, Paragraph 5-381(f); Advisory Circular (AC) 61-27C, Instrument Flying Handbook, pages 190 and 215.*

Question 4:
Must a helicopter execute a circling IAP so that the rate of descent will allow touchdown within the touchdown zone on the runway of intended landing?

Reply:
Affirmative for helicopters operating under FAR Part 135, negative for helicopters operating under FAR Part 91.

Reference: *FAR § 91.175(c)(1)*

Question 5:
During an air taxi pilot-in-command instrument proficiency check, may a Federal Aviation Administration (FAA) aviation safety inspector or FAA authorized check airman require a pilot to demonstrate a circling IAP to minimums lower than those prescribed in the air carrier certificate holder's operations manual?

Reply:
Affirmative. Some air taxi operators prescribe higher than published minimums for executing a circling IAP. Their operations manuals contain requirements to add additional altitude to the MDA and/or additional visibility requirements to the published minimums for circling IAP's. However, the standards applied concerning IAP minimums during a pilot-in-command instrument proficiency check will be as prescribed in FAR § 135.297(b) and the appropriate practical test standard corresponding to the applicant's pilot certificate. The aforementioned FAR and the practical test standards require all IAP's to be executed to published DH or MDA as prescribed in the operator's operations specifications.

Reference: *FAR § 135.297(c) and (c)(1)(i)(ii); Instrument Rating Practical Test Standard, Section VI; Airline Transport Pilot and Type Rating Practical Test Standard, Section V.*

Addendum: Some confusion exists concerning standard alternate minimums for helicopters. Standard alternate minimums for all categories of aircraft are as follows: for precision approaches, a ceiling of 600 feet and visibility of 2 statute miles and for nonprecision approaches, a ceiling of 800 feet and visibility of 2 statute miles. These minimums apply to airports with IAP's published in FAR Part 97 that do not have nonstandard alternate minimums. If an airport does not have an IAP published in FAR Part 97, the pilot may descend from the minimum en route altitude, *after attaining basic VFR*, then approach and land, still under basic visual flight rules. These minimums apply for planning purposes when the pilot must file an alternate airport in accordance with FAR § 91.169(a)(2). When proceeding to the alternate airport, the alternate airport now becomes the destination airport and, with the exception of helicopter-only IAP's, Category A IAP visibility minimums may be reduced by one- half but not to less than one-quarter mile or 1,200 feet RVR.
Reference: FAR § 91.169(c); TERPS, Paragraph 360; AC 61-27C, Page 189. ■

Editor's Note: Mr. Robinson is a specialist in the Operations Branch, General Aviation and Commercial Division, Flight Standards Service, in FAA's Washington Headquarters. He is also Chairman of the Rotorcraft Task Force (ROTAF), an open forum for the public and private sectors to discuss issues of common interest concerning rotorcraft. Look for an article on the Height-Velocity envelope by Mr. Robinson in an upcoming issue.

FLIGHTFORUM

• TO AND FROM

The AIM states: "The visual glide path of the VASI provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to four nautical miles from the runway threshold." I find this confusing. do they mean " . . . from four nautical miles to the runway threshold," or not?

Name withheld

As the old expression goes, "Six of one, half dozen of the other." The AIM is phrased as it is because the runway threshold is the fixed point *from* which the four nautical miles is measured.

• TEST EXPIRATION DATE

I have been an instrument flight instructor for many years. Now I am ready to take the practical tests to add single and multi-engine land airplanes to my instructor certificate. My problem is my Flight Instructor Airplane written test result form is older than 24 months and my designated pilot examiner will not accept the written test results. He says the test results must be dated within the past 24 months. I believe for an add-on rating I must only show that I passed the written test. Who is correct?

Name Withheld

The examiner is correct. If your written test result form has a date on it, for the test results to be valid, the date must be less than 24 months old. FAR 61.39(a)(1) applies. Some test result forms do not contain a date and therefore do not expire. The Fundamentals of Instruction written test result form is one such example.

Please note you will have to take a portion of your practical test for the additional instructor rating, single-engine airplane, in a complex aircraft because your instrument instructor practical test did not require a complex aircraft. Obviously, the practical test for your multi-engine instructor rating will be in a complex aircraft.

Good luck on your tests.

• CIRCLE TO THE LEFT

According to FAR §91.129(e)(1), when approaching to land at an airport with an operating control tower, each pilot of "an airplane shall circle the airport to the left." Under what circumstances should the pilot circle to the left? Is this the proper technique to follow when a radio failure has occurred, and the airport is utilizing right hand traffic (as published in the Airport/ Facility Directory)?

Jacqueline Tulumello
Babylon, NY

FAR § 91.129(e)(1) requires each pilot of an aircraft to circle a controlled airport to the left. This should be followed in all circumstances, regardless of the traffic pattern since ATC will sequence the aircraft appropriately. FAR § 91.129(b) allows a pilot whose radio has failed in flight to land in VFR conditions if the pilot can maintain visual contact with the tower and if the pilot receives a clearance to land (light signal).

The following is the recommended procedure for landing at an airfield with an operating tower when an aircraft has had an in flight radio failure. The pilot should remain outside of the airport traffic area until determining the runway in use, e.g., by overflying higher than 3,000 feet AGL to stay clear of the airport traffic area. Then the pilot should safely enter the pattern for the runway at pattern altitude and fly normal downwind, base, upwind, and crosswind legs while waiting for an appropriate light signal clearance to land (steady green). If the pilot does not receive clearance to land, the pilot must continue flying the pattern with an upwind leg, crosswind leg, etc., until given permission to land. Remember, a pilot must have permission to land, unless the pilot in command finds it necessary to exercise his or her emergency authority under FAR § 91.3(b) and FAR § 91.123(b).

Chapter 4, Section 3 of the Airman's Information Manual discusses airport operations, including the use of light signals to control aircraft.

• PART 91 AND INT'L FLIGHT

There is a debate going on in our office as to the applicability of certain parts of the Federal Aviation Regulations (FAR) while operating U.S. civil registered aircraft internationally. We are in need of an interpretation to resolve this debate.

We are U.S. pilots operating a U.S. civil registered Sabreliner *jet aircraft throughout Europe, Africa, the Middle East, and the North Atlantic.*

FAR § 91.1 states that FAR Part 91 is applicable to aircraft operating within the United States including the waters within three nautical miles (NM) as well as the waters within three and 12 NM. This has led some to believe that NO portion of FAR Part 91 is applicable once the aircraft has departed said waters and is operated internationally.

However, FAR § 91.701 and § 91.703 state that while operating internationally, one must comply with FAR Part 91, with some minor exceptions (towing gliders, parachuting, etc.), as well as ICAO and foreign country rules.

It seems that if the intent of FAR § 91.1 was that FAR Part 91 did not apply while operating internationally, then there would be no need for FAR § 91.701 and § 91.703. Therefore, it is my contention that FAR Part 91 DOES apply to U.S. civil registered and operated aircraft while operating internationally.

The bottom line is: does FAR Part 91 apply to us while we are operating internationally?

Thank you for clearing up this matter for us.

Gary J. Wheaton
Frankfurt, Germany

Yes, FAR Part 91, as defined by FAR § 91.1 and Subpart H, applies to civil U.S. registered aircraft operating internationally. Subpart H, Foreign Aircraft Operations and Operations of U.S. Registered Civil Aircraft Outside of the United States, outlines the various rules for international operations. FAR § 91.701, Applicability, says the Subpart applies to operations of U.S. registered aircraft outside of the United States. FAR § 91.703, Operations of civil aircraft of U.S. registry outside of the United States, defines what rules apply when a U.S. registered aircraft is over specific areas of the world. It says in part, when operating in a foreign country, the pilot is to comply with the rules of that country and those parts of FAR Part 91 that are not inconsistent with the rules of that country or annex 2 of the Convention on International Civil Aviation. It also lists those parts of the FAR that do not apply.

Other sections of the Subpart outlines procedures for civil U.S. registered aircraft flying over the high seas; flying within the North Atlantic Minimum Navigation Performance Specifications Airspace; flights between Mexico, Canada, and Cuba and the United States; and requirements for civil foreign aircraft operating within the United States.

FAA AVIATION NEWS welcomes comments from our readers. Letters may be edited for style and length. We will not print anonymous letters, but we will withhold names on request. Address: FAA AVIATION NEWS, AFS-20, Washington, DC 20591.

NEW MEDICAL APPLICATION FORMS

Aviation Medical Examiners have a revised FAA Form 8500-8, Application for Airman Medical Certificate or Airman Medical and Student Pilot Certificate, that is going into effect July 1, 1991. The purpose of the information gathered on this updated form is to determine if the person meets FAA medical requirements to hold an airman medical certificate or an airman medical and student pilot certificate. The information will also provide data for the FAA's automated medical certification system to depict airmen population patterns and to update certification procedures and medical standards.

The form itself contains several changes. The most significant revisions are in the instructions for #18, Medical History. The period for reporting treatment, examination, evaluation, or counseling with a health professional (physician, physician assistant, nurse practitioner, psychologist, clinical social worker, or substance abuse specialist) is now three years. This does not include routine medical, eye, or dental exams or minor colds or illnesses. If there is no change in a condition since the previous medical, the applicant may write "Previously reported, no change" in the Medical History explanation box. Also included under Medical History are explicit instructions on reporting kind and type of motor vehicle traffic convictions or administrative actions, especially drug or alcohol related ones, and criminal convictions (misdemeanors or felonies).

Another major change is the written consent by the applicant which authorizes the FAA a single access to the National Driver Register (NDR) for adverse driver records. The declaration must be signed or the AME cannot issue the certificate.

Remember, intentionally falsifying information on the application form may result in federal prosecution and/or suspension or revocation of all airmen, ground instructor, and medical certificates and ratings.

COMPUTER BULLETIN BOARD SERVICE

New FAA Amateur-Built and Ultralight safety computer bulletin board service available. The menu driven service is only for amateur-built aircraft and ultralight vehicles (Reporting procedures for certificated aircraft are in the FAR). The Safety Data Exchange Bulletin Board provides an anonymous way for pilots and owners to exchange Service Difficulty Reports and safety information about a particular type of homebuilt aircraft or ultralight vehicle model.

The Bulletin Board is available by calling 1-800-426-3814 from 3:30 pm to 7 am Central Time Monday through Friday and 24 hours on weekends and holidays. Although the system supports any modem baud rate from 1200 to 2400, recommended computer parameters are 1200-N- 8-1. The password is SAFETY. ONLY UPPERCASE LETTERS CAN BE USED.

No identifying information is requested except for type of model of aircraft or vehicle. Type information desired is anything that has happened to your aircraft or vehicle that can happen to another person's. Desired information includes, particularly if one of the following is the problem, engine make and model, propeller make and model, component make and model, part name and number, location of part or problem, and such additional information as required to help someone avoid the same problem.

User input should be available within 12 to 24 hours. If you have any questions or comments about the service call or write Ben Morrow, SDR Coordinator, FAA, ACE-103, 601 E. 12th Street, Kansas City, MO 64106. His telephone number is (816) 426-3580.

COMANCHE AD

A notice of proposed rulemaking, issued on May 15, proposes to adopt a new airworthiness directive (AD) that would be applicable to Piper Model PA-24-260 airplanes equipped with non-turbocharged fuel-injected engines. It would require the installation of a manually controlled, heated alternate air induction system to prevent engine stoppage while flying in weather conditions that are conducive to induction system icing. Because of design differences between these aircraft and those that are turbocharged and are not fuel-injected, this action would supersede AD 91-02-06 which applies to all PA-24-260 airplanes.

Send comments on this proposal in triplicate to FAA, Central Region, Office of the Assistant Chief Counsel, Attn: Rules Docket No. 91-CE-41-AD, Room 1558, 601 E. 12th Street, Kansas City, MO 64106. Comments must be received by July 15, 1991.

TIEDOWN MISHAPS– BRITISH STYLE

Tie down mishaps occur not only in the U.S. but in other countries as well. The following is the British version which appeared in the December 1990 issue of the *General Aviation Safety Information Leaflet* published by the Civil Aviation Authority (CAA).

In October 1990 a Piper PA-28 *Warrior* landed at a regional airport after a cross-country flight. Immediately after landing, the pilot asked Air Traffic if he could hold and vacate the aircraft momentarily. This was approved and through binoculars Air Traffic observed the pilot detach a tie down weight (a cement filled five gallon drum) from the right hand wing and roll it to the edge of the runway. The pilot got back into the aircraft and requested taxi clearance for parking. Air Traffic asked if he would like to have the object retrieved and they despatched a mobile unit to collect the drum. At no stage did the pilot advise Air Traffic that there was an object suspended from the aircraft.

CAA Comment:

It appears that the pilot had delegated the task of untying the aircraft from its tie down blocks to one of his young passengers and this passenger failed to do so.

This occurrence, like similar ones reported this year, proved the inadequacy of five-gallon oil drums as effective hold down devices for aircraft. Pickets and suitable chocks are the preferred method.

Lastly, before any readers turn away from this article thinking "how can anyone be so foolish?" remember that this is the third case that has happened in the last six months. The only way to prevent it happening is do a full and proper preflight inspection before attempting flight. It is very fortunate in this case that this 75 lb. block of concrete remained attached to the aircraft, since the damage and injury that it could have caused does not bear thinking about.

Our British cousins do have a way of understating things! —Editor

Piper Turbo Comanche C

AVNEWS/BRIEFS

THE RIGHT FORM FOR "WINGS"

The National Accident Prevention Program would like to bring a small error in Advisory Circular 61-91F, Pilot Proficiency Award Program, to your attention. Paragraph 4, Forms and Reports, on page 1 mistakenly says that pilots must have AC Form 3150-7, Physiological Training Application/Agreement, in order to apply for their lapel pin wings as part of the Pilot Proficiency Award Program. AC FORM 3150-7 IS ONLY REQUIRED IF THE PILOT WANTS TO TAKE FORMAL PHYSIOLOGICAL TRAINING AS PART OF THE REQUIREMENTS FOR EARNING THE WINGS. If the pilot does not want to take physiological training, a logbook endorsement or an endorsement on the standard form produced by the General Aviation Manufacturers Association (GAMA) is sufficient to prove that the pilot has accomplished the requisite instruction to qualify for a particular phase and lapel pin.

Sorry for the misunderstanding, and please pass on the word.

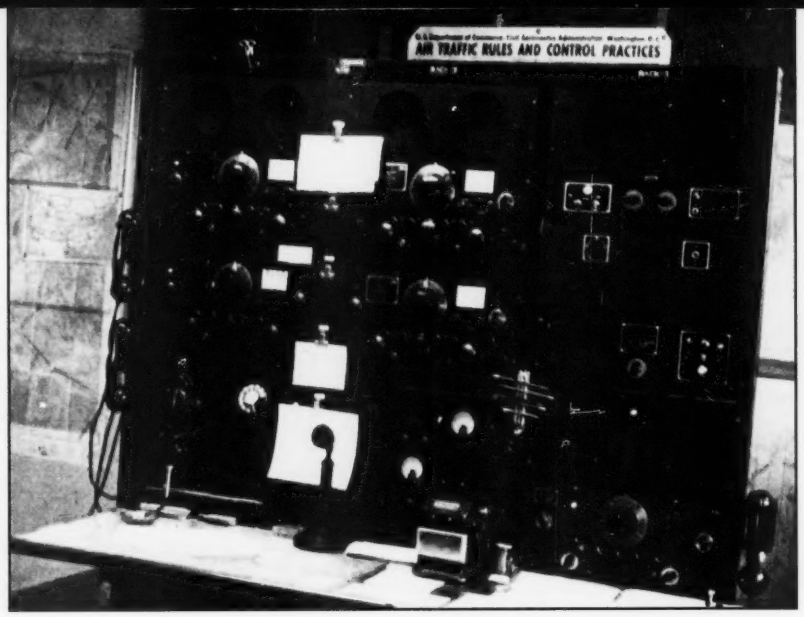
CUBAN FLIGHT ADVISORY

An official Cuban government publication has issued a warning to any aircraft illegally penetrating Cuban airspace and then refusing to obey an order to land for inspection—it will be shot down by the Cuban Armed Forces. The Federal Aviation Administration advises all pilots to take note and use extreme caution in Cuban airspace and to adhere strictly to requirements for overflight of Cuban territory.

NOTAM

The FAA has found that pilots surveyed lack sufficient understanding and knowledge of the NOTAM system. Most thought that they received all the NOTAM information necessary for their flight when they called the Flight Service Station for a standard briefing. They were not aware that NOTAM (D) information and FDC NOTAM's, which are published in the *Notices to Airman* publication, are only given if specifically requested by the pilot.

To counteract this problem, FAA's Accident Prevention Program is developing an education effect to make pilots better informed on the availability of NOTAM's. Remember FDC NOTAM's are regulatory in nature, and under FAR § 91.103 a pilot is responsible for becoming familiar with all available information.



SCAVENGER HUNT FOR ATC EQUIPMENT

Be on the alert for air traffic control equipment from the 1930's and 1940's. FAA wants it for preservation purposes.

No joke. FAA Administrator James Busey has put out a call to anyone who knows the location of such equipment that could be donated to the FAA's ATC Heritage Project. This vintage equipment will then be assembled into an exhibit showing ATC's advancements over the years and loaned to museums throughout the country.

Anyone who has or knows the location of vintage air traffic control equipment that could be donated to the project should contact:

Robert Hoppers, Project Manager
ATC Heritage Project
FAA Aeronautical Center, AAC-5
P.O. Box 25082
Oklahoma City, OK 73125
phone: (405) 680-7500
FAX: (405) 680-4551

NEW NORTH ATLANTIC FLIGHT MANUAL

A new FAA manual provides guidelines for general aviation pilots flying the North Atlantic. *The North Atlantic International General Aviation Operations Manual's* introduction explains its purpose: "Flights by light general aviation aircraft across the North Atlantic have increased dramatically in the past few years. Unfortunately, there has also been a corresponding increase in the number of general aviation fatalities and aircraft lost. Because of the harsh climate, lack of ground-based radio and navigation aids, as well as the immense distances involved, a *trans-Atlantic flight is a serious undertaking.* While IGA (international general aviation) flights constitute a relatively small percentage of the overall North Atlantic traffic, they account for the vast majority of search and rescue operations and expenses. The information contained in this manual is intended to assist the IGA pilot in completing a safe and enjoyable flight."

The new manual provides only *guidelines* for flying the North Atlantic. The manual does not replace various national Aeronautical Information Publications (AIP's) needed for flight planning. Pilots must still review and comply with various AIP's, NOTAM's, and other information before departing. The manual provides a source list of the various rules and regulations that govern flights across the North Atlantic.

Although the manual provides guidance for departing North America, crossing the North Atlantic, and entering Europe, it also provides important flight and cold weather/water survival information that many pilots will find helpful no matter where they fly. The chapters titled "Equipment," especially the Canadian sea and polar survival requirements, "Search and Rescue," and "Checklist" are worth the 33-page manual's $2.25 cost. The U.S. Government Printing Office sells the English version, Document SN 050-007-008-864, through its bookstores. The International Civil Aviation Organization (ICAO) sells the Spanish, French, and Russian versions through its Paris office.

OSHKOSH '91

Continued from page 19.

EAA Aviation Center (foreground) and Wittman Regional Airport, site of OSHKOSH '91. Photo courtesy of EAA.

The following is a list of some of the flight restrictions at Wittman Regional Airport during the convention. Beginning July 24, Wittman will be closed to all *ARRIVING* aircraft from 8:30 p.m. CDT until 7 a.m. daily. It will be closed to all *DEPARTING* from 8:30 p.m. CDT until 5:30 a.m. daily. During operating hours the airport may close periodically because of parking saturation. During aerobatic demonstrations, Wittman tower will take no arrivals or departures. The only exceptions are by prior approval of airport management. The NOTAM tells how to request an exception approval. Air show hours are normally 3:30 p.m. CDT, (2:30 p.m. on July 28), until 7 p.m. daily, (6:30 p.m. on July 26 and 28).

The following safety guidelines are discussed in the NOTAM:

- Light aircraft (under 6,250 pounds) must exit runways onto turf areas as soon as practical.
- Pilots must be alert for hazards marked by cones and/or flags. Remember, there is always the chance a new hazard may not be marked.
- All movement off paved runways and taxiways is at each pilot's own risk.
- Pedestrians may not walk on paved runways, taxiways, or the air carrier ramp at any time.
- Campers may not have campfires or stoves near aircraft. All fire prevention rules must be observed.
- Airport safety problems or accidents/incidents must be brought to the attention of law enforcement or airport personnel.
- Pilots should bring their own tiedowns.
- For safety and increased visibility, aircraft lights should be turned/left on within 30 miles of Oshkosh.
- All pilots must monitor their fuel status carefully because of possible en route delays.
- For hard surface parking or fuel at Wittman contact the following FBO's, Basler (414) 235-1740, UNICOM 122.95, or TPC Flight Service (414) 231-7460.
- And finally, all pilots should monitor 121.5 on their radios to detect inadvertent activation of their ELT prior to radio shutdown.

These are only a few of the safe operating procedures outlined in the NOTAM.

The following special FAA enroute safety alerts are for information purposes only. Again, please check current NOTAM's for any changes or additions that may pertain to your route of flight.

(1) On July 25, 26, 27, and 28 there will be a military jet team practice and airshow in the Lake Michigan, Chicago Meigs area. Check NOTAM's for times if you are flying through the lake shore area.

(2) The Chicago O'Hare TCA now extends up to 10,000 feet MSL.

The provided diagams, charts, and explanations outline some of the procedures in the NOTAM. Again, you should read the NOTAM for complete information. These charts are for informational purposes only. *They are not for navigational use.*

WITTMAN REGIONAL/ OSHKOSH FREQUENCIES

USE	FREQUENCY
Arrival ATIS	125.8
FISK	120.7
Oshkosh Tower South RWY 18/36 RWY 09/27 Departures Monitor	126.6 118.9
Oshkosh Clearance Delivery	119.05
VORTAC	111.8
Departure ATIS	128.75
Oshkosh Tower North RWY 09/27	118.5
Oshkosh UHF	257.6
RWY 18/36 Departures Monitor	121.75
Oshkosh Ground Control (VFR)	121.9

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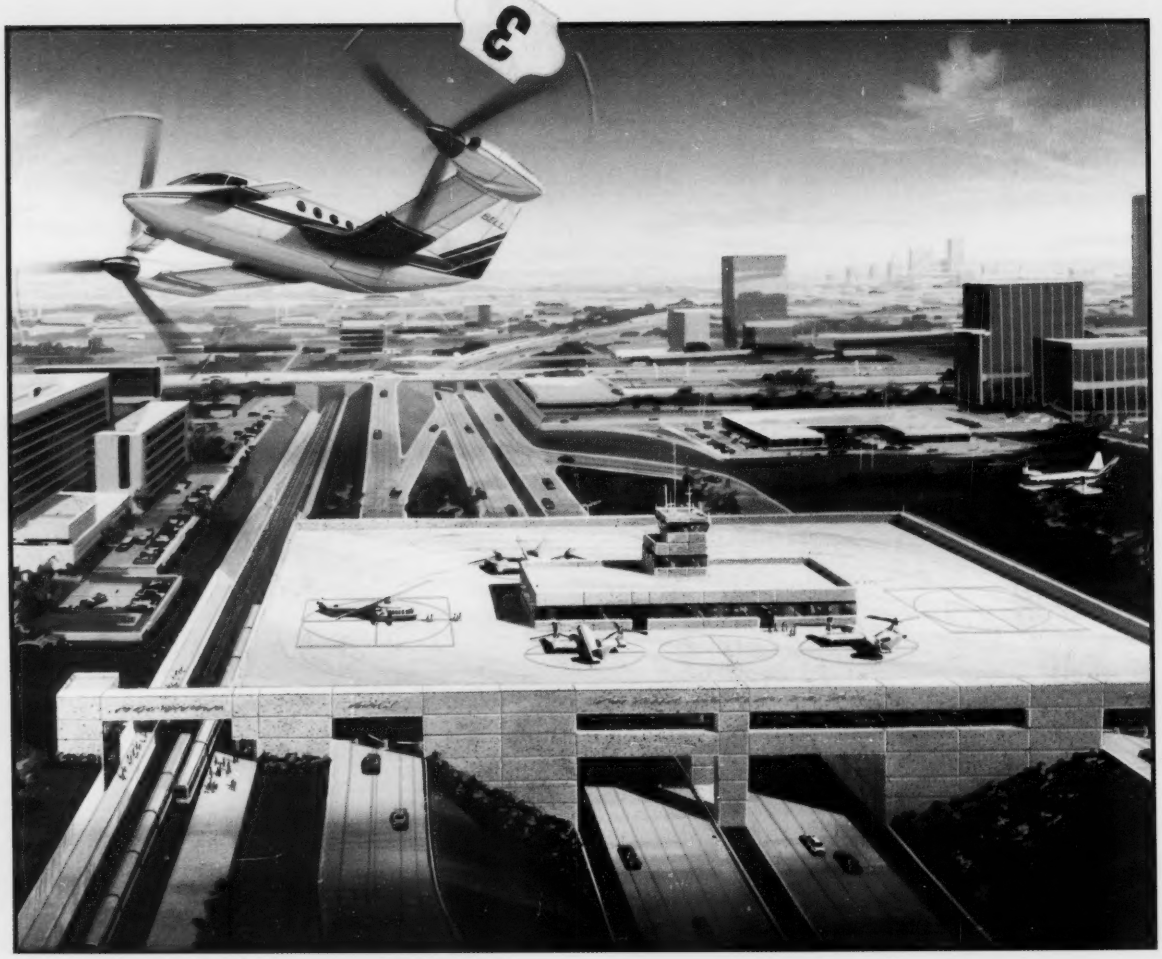

An artist's conception of the future of vertical flight shows the shared use of multi-modal facilities to serve the transportation needs of a major metropolitan area. Built over a freeway, a vertiport would maximize available airspace while providing downtown areas with fast, efficient, short to mid-range intercity air transportation. Art courtesy of Bell Helicopter Textron, Inc.